



**Proceedings of the 2nd International Conference
of the Journal Scuola Democratica
REINVENTING EDUCATION**

VOLUME II

**Learning with New Technologies,
Equality and Inclusion**

ASSOCIAZIONE "PER SCUOLA DEMOCRATICA"

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ASSOCIAZIONE "PER SCUOLA DEMOCRATICA"
Via Francesco Satolli, 30 – 00165 - Rome, Italy

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***Title* Proceedings of the Second International Conference of the Journal “Scuola Democratica” – Reinventing Education VOLUME II Learning with New Technologies, Equality and Inclusion**

This volume contains papers presented in the First International Conference of the Journal “Scuola Democratica” which took place at the University of Cagliari on 5-8 June 2019. The aim of the Conference was to bring together researchers, decision makers and educators from all around the world to investigate the concepts of “education” in a “post-democracy” era, the latter being a set of conditions under which scholars are called to face and counteract new forms of authoritarian democracy.

Populisms, racisms, discriminations and nationalisms have burst and spread on the international scene, translated and mobilized by sovereigntist political movements. Nourished by neo-liberalism and inflated by technocratic systems of governance these regressive forms of post-democracy are shaping historical challenges to the realms of education and culture: it is on this ground, and not only on the political and economic spheres, that decisive issues are at stake. These challenges are both tangible and intangible, and call into question the modern ideas of justice, equality and democracy, throughout four key dimensions of the educational function, all of which intersected by antinomies and uncertainties: ethical-political socialization, differences, inclusion, innovation.

The Conference has been an opportunity to present and discuss empirical and theoretical works from a variety of disciplines and fields covering education and thus promoting a trans- and inter-disciplinary discussion on urgent topics; to foster debates among experts and professionals; to diffuse research findings all over international scientific networks and practitioners’ mainstreams; to launch further strategies and networking alliances on local, national and international scale; to provide a new space for debate and evidences to educational policies. In this framework, more than 600 participants, including academics, educators, university students, had the opportunity to engage in a productive and fruitful dialogue based on researches, analyses and critics, most of which have been published in this volume in their full version.

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Premise

In recent years, an important debate has developed on the role that digital technologies are playing and can play in the transformation of education and its institutions. Digital platforms, distance learning, blended learning, online training technologies are part of a significant restructuring and reculturing of the educational worlds. Digital technologies have restructured learning practices, educational content and the forms of educational governance which are immersed in public spaces and global markets. On the one hand, the digital governance of education contributes to changing and reconfiguring educational practices and the management of education on a local, national, international and transnational scale. On the other hand, technologies make possible the interconnection of multiple modes and shapes of formal, informal and non-formal education and training, producing forms of re-spatialization of education, locating the classroom within a digital learning ecosystem and favouring the emergence of different models of blended or hybrid learning.

The pandemic scenario has accelerated these processes, making more visible the tensions between multiple worlds of education and the processes of digitalization, while triggering a complex restructuring of educational institutions whose directions are not yet easily predictable. Perhaps, we are entering a new era that will mark the end of education as we have known it so far. In such a scenario, it becomes more urgent to carry on and debate an informed educational research, that explores the realities of the relations between education and digital technologies. This is especially needed because technologies are far from neutral. They are a heterogeneous technical and social world in which possibilities to change education for the better and make education fairer can be encountered as well as risks can be run of reproducing social and educational inequalities. Therefore, key questions are: how and in what direction the processes of digitalization are changing education, its practices and its governance? What are forms of coordination between educational technology markets and the institutional and educational actors in the emerging transnational governance arenas? How do the professional and social actors (teachers, managers, students, families) that are involved in the digitalization of education react to and translate these transformations? How do digital technologies change the aims and the curriculum of contemporary educational institutions? How can the digital competencies learned by students beyond the educational spaces (school and university) become a resource for learning processes and educational socialization in educational contexts? And above all, what are the possibilities that digital technologies offer us to reinvent education and its governance that are worth to be explored?

Papers collected in the Volume try to give preliminary answers to those issues. Furthermore, contributions from a range of experts, specialists and scholars cannot avoid facing educational inequalities which haven't by any means disappeared. They have rather changed and (re)combined into new forms that challenge the resilience of educational systems in terms of both effectiveness and equity. Several contributions published in the Volume aims to address these issues from a theoretical and empirical point of view, as well as their implications for educational policies. In this sense, proposals linked to educational inequalities in relation to social stratification as a factor affecting cognitive results, educational choices, the attainment of educational qualifications and working careers are of interest for the reader. Comparative research on different scale (comparisons between national, regional or local cases) is

particularly relevant and much importance is attached to the analysis of institutional factors (tracking, comprehensive vs selective systems, accountability policies, private education, ability grouping) which can produce educational segregation dynamics affecting educational inequalities, intersecting extra-curricular factors, such as urban segregation, for example.

The intertwining and interconnecting of differences (gender, socio-economic, cultural, ethnic, cognitive, and motivational factors) often generate inequalities both for their effects in themselves and in relation to the policies implemented to address them in their multidimensionality and intersectionality. Therefore, specific tracks on how education systems and educational institutions try to manage differences and end up producing inequalities are welcome.

The links between education and the labour market are another central aspect of research: the debate on the inflation of educational qualifications and over-education, the differential returns to education according to the type of diploma, degree program or type of tertiary program attended and, more generally, the relationship between education and social mobility represent a pivotal set of phenomena to understand production and reproduction of educational inequalities.

The applications of randomized controlled trials to the assessment of policies aimed at reducing inequalities and improving cognitive and career results as well as empirically driven reflections on how educational policies intersect the complex relationship between equity (equality and inclusion), quality and excellence are one of the main focuses researchers have dealt with in the collected papers.

Gender inequalities are a key topic to understand educational differences. Educational contexts are marked by a significant gender gap in staffing and in the formative experiences of children, teenagers and young students. These differences reflect and often reproduce gender stereotypes and asymmetries in societies at large. How are gender issues addressed in classrooms? Where are they encountered in training settings? What models do teachers convey, and what are the emotional responses from students of diverse gender? How do educational institutions practice and reproduce gender stereotypes and asymmetries? Can school and university provide contexts in which to acquire gender awareness and tackle gender issues? What are the responsibilities of educational contexts in the representation of gender in society? What experiences and good practices have been activated to promote greater gender equity? What cultural resistances? Several questions are addressed in the Volume and many are the answers discussed.

Many forms of educational segregation persist, yet today a growing presence of women – which are in some cases becoming a majority – is found even in fields that have historically been a male domain; this is the case, for example, of medicine and biology in higher education. International and national data show that many things have changed in recent decades, and gender equity is rising in all spheres of education and training. At the same time, several initiatives have been launched to promote greater awareness of gender stereotypes and prevent phenomena such as discrimination and gender-based violence. However, much remains to be done – not least to prevent backlashes and the emergence of new inequalities alongside

established ones. This is the case, for example, of the asymmetries in accessing fields of knowledge that may become relevant for the future of work (e.g., digital skills), or the development of new practices of discrimination related to the use of new technologies (e.g., hate speech or revenge porn).

Younger generations have been challenging those constraints surviving from the past, but new challenges arise in a constantly evolving global environment, where the urgency of the climate crisis in the midst of the coronavirus pandemic call for societal radical shifts while populism, unemployment, artificial intelligence, remote education and communication are affecting the ordinary daily life as we knew it.

Some analysts fear the pandemic will spur a new kind of backlash against the very basis of global society, from migration to cooperation and interdependence, while others worry about younger generations' abilities to overcome mass unemployment and economic vulnerability. Economic, political and environmental crisis are now fully part of the youth horizon: how are formal, informal and non-formal education going to support young people in moving forward positively and purposefully in their lives while simultaneously ensuring space for their autonomy, decision-making and voice?

Such general question contains intersected and multiple issues and applies across contexts as diverse as the role and relevance of democracy as educational content, the changing landscape of non-formal learning/education, the forging of future visions on politics, digital technologies and the media, youth educational transitions, youth experiences at work, the relation between consumerism and environmentalism, the widening of opportunities and constraints stemming out from cooperative learning and digital exchange tools.

Social research and youth studies have been producing a wide range of analyses on these relevant issues, with the (re) emergence of broader theories and empirical inquiries directed towards the recognition and validation of non-formal education, the promotion of youth participation, and the deeper rethinking of youth policies.

Under the large umbrella of an education to be re-invented, papers in the Volume are dedicated to new generations, transitions and the future of education, with a broad, multidisciplinary, and internationally set of contributions focusing on a variegated platform of topics on youth studies theories, critical analysis of relevant societal debates surrounding youth in and out education; in and out the labour market; on youth transitions throughout and across cultures, statuses, roles, responsibilities and institutions; on the impact of the various initiatives to promote and enhance youth participation; on the role of youth organisations as well as on the strengths and weaknesses of youth policies at both a national and supranational level.

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**The Times They Are A-Changin'
What is Meant by Reinventing Education in
the Digital Era?**

Towards Innovative and Creative Use of Participatory Platforms. Research Experiences Promoted by Fondazione Reggio Children

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ABSTRACT: *The importance of taking clear steps in designing online learning, rethinking the roles of teachers and students in digital interactive experiences and the limitations and possibilities of online learning, have been recently debated in the scientific context (Verawardina et al., 2020), also given the sudden changes imposed by the COVID-19 pandemic. This contribution aims to describe recent research experiences developed by the research project Scintillae, jointly promoted by the Fondazione Reggio Children-Centro Loris Malaguzzi and The LEGO Foundation, and to discuss possible ways to design online workshops based on co-construction and children and adult's engagement in hybridized practices. The experiences described were intended to create and offer contexts where the creative potentials of play and digital tools generate ideas, connections, meaningful aesthetic experiences and new knowledge. In particular, the digital dimension was intended as a new interpretative context of the Hundred languages theory (Malaguzzi, 1987). Learning contexts were designed by referring to an idea of technology diffused and integrated, involving adults and children in the active investigation and «movement» between digital, analogue tools and expressive languages, exploring new digital alphabets. During the online workshops designed and proposed by the research team, the active role of the young students and adults in the co-creation of learning processes through technologies was emphasized. The use of participatory and collaborative platforms was aimed at sustaining children and adults' creative strategies, by interpreting participatory online platforms as spaces where a collective design process could take place.*

KEYWORDS: *Creativity; Co-creation; Participatory platforms; Digital aesthetics; Innovation.*

Introduction. The development of the research project

In March 2020, the COVID-19 pandemic hit Italy and forced the National Government to take drastic health containment measures. School buildings of every grade were suddenly closed and children from infant

toddler centres up to high schools were asked to stay at home. The Italian Ministry of Education appealed to teachers and educators to find ways to continue the educational relationship with their students using digital platforms¹. Even though many schools were already using digital platforms and online tools on a regular basis, such an extensive interruption of the physical and in presence relationship never occurred before. Fondazione Reggio Children² was invited by the Ministry of Education to contribute to the development of an online platform of educational topics that they were preparing for supporting teachers with possible ideas and some hints. A group of the Fondazione, led by the staff of the research project Scintillae³, created online contents starting from ongoing projects and research topics that were being explored at the moment. This project led to the development of a new project, consisting in the design of online workshops based on co-construction and children and adult's engagement in hybridized practices. The research project was founded on the following questions:

- How can we offer digital actively engaging learning experiences that keep the essence of our work and at the same time can expand what is possible in the physical world?
- How can we, as adults, teachers and educators, ensure that elements of creativity and meaningful interaction emerge in the use of digital platforms?
- Which features and characteristics are necessary in order to constitute a truly interactive relationship between medial environments, digital technologies and human subjects?
- How can digital platforms foster complex and shared cognitive acts, that involve as well meaningful aesthetic experiences?

1. Digital interactivity and Aesthetic perspectives

In order to foster the authenticity of the experience in media environments, the research group considered, in particular, elements such as wonder, unpredictability, creative invention and the use of

¹ With online platforms (Helberger et al., 2018), the research groups refer to digital spaces that allow forms of collaboration. Some of the platforms explored are listed in paragraphs 4 and 5.

² Fondazione Reggio Children-Centro Loris Malaguzzi was established in 2011 and originated from the educational experience developed in Reggio Emilia since the 1960's. It is a research foundation, based in Italy, and works with local, national, and international stakeholders for the promotion of Children's rights.

³ Scintillae-play and learning in the digital age is a research project promoted jointly by the Fondazione Reggio Children-Centro Loris Malaguzzi and The LEGO Foundation. The project started in 2018 and it is also a physical space located in Reggio Emilia at Loris Malaguzzi International Centre. Scintillae aims to create and offer contexts where the expressive potential of play and digital tools generate ideas, connections and new knowledge.

imagination, concepts that belong to the aesthetic tradition. Furthermore, the reconfiguration of the sensitive experience related to the increasingly pervasive mediation processed by digital technologies, are contributing to the definition of Aesthetics' actual perspective, as the concept of digital interactivity is strictly related to the aesthetic sphere. In fact, this concept involves the creative margins available to the subject in the process of identification with the performances that digital technologies express in interactive contexts, allowing a subject to elaborate various strategies of explorations (Montani et al., 2018). To understand the qualities of the experience of medial environments, it is useful to refer to the concept of multimodality, as it implies complex relationships between the sensory and cognitive dimensions, as well as the interweaving of different symbolic codes (Tønnessen, Forsgren, 2019). By drawing on recent interpretations of the Deweyan aesthetic paradigm, Marfia and Matteucci underlined the importance of the interactive relationship – continuously reorganized – between body and environment, which is necessary to relate it to the possibility of providing participatory and communicative experiences in medial environments.

Furthermore, both the imaginative aspects and those that define the use of digital devices are characterized by a common interactive statute, as stated by Montani's in his analysis of the concept of intermedial imagination (Montani, 2020). Digital devices can therefore be understood, through a phenomenological analysis, as constitutive extensions of human sensitivity. This inter-relational and interactive paradigm fosters the promotion of a critical and active use of digital tools to allow a creative use of technologies. The issue of the aesthetic aspects related to digital technologies concerns, in fact, the continuous processes of transformation of our sensitive perception operated by such devices through the various types of interface we interact with, defining the environment that surrounds us not as an object of passive contemplation, but as a vast field of action and interaction in which we are dynamically involved also through the mediation of digital devices. Finally, by referring to Diodato's recent theoretical reflection (Diodato, 2020; 2021), the research group adopted a phenomenological perspective on digital environments, which concurred to outline some of the main aspects that contribute to determine the authenticity of the aesthetic experience in medial environments. In particular, the elements considered were: innovation, unpredictability and creative invention.

2. Key features of the research project

In addition to the perspective described in the previous paragraph, the key features of the research project were related to the educational philosophy developed in Reggio Emilia since the 1950's and the LEGO Foundation holistic view of children's development and learning. Both perspectives are based on the idea of a child and a human being

competent in learning, full of potentials, producer of culture, in a relationship of reciprocity with the world around them (Rinaldi, 2018). Furthermore, the educational experience of Reggio Emilia is based on a research approach to learning, where teachers and children are co-researchers and make hypothesis, experience and elaborate theories, with the awareness that mistakes and misunderstandings can be the occasions to develop new forms of perception, to challenge and revise normative standards and inherited conventions. In fact, as stated by Carla Rinaldi (2020, 18):

Children are born with many tools to explore their world: they are born with wonder, curiosity, with love and the desire to live. And they are born with creativity. Children, freer from given rules and pre-established solutions, are the generators par excellence of new ideas and creative thoughts. When they encounter a new object or material, in their face and body we can see that they ask, «What is the meaning of this?». They naturally explore it, trying it out in many ways. To us, the adults, there may be one answer to their question, but for them there are still many possibilities, and they try them all.

3. The design of the workshops

Given these premises, the research team tried to avoid a mere transposition of experiences from the physical to the digital environment. Instead, building on the previously acquired know-how, it was necessary to create and offer contexts where the creative power of play and digital tools generate ideas, connections and new knowledge. For this reason, six dimensions were identified and studied to develop new pilot workshops to be offered to children and adults in order to enhance a different attitude towards digital experiences.

- Environment, space and context: setting up of contexts; favouring the use of the surrounding physical environment, beyond the screen, to offer multi-sensory learning opportunities; creating the possibility to work in small groups giving value to everyone's contribution, recognizing the importance of quality interaction for learning.
- Time: taking time and giving time to experience, creating occasions for continuity, expanding the time for learning before and after the workshops; focussing on the process, not the performance or the product; welcoming creative hitch, proceeding by trial and error.
- Role of the adult (leading the experience): how does the role of those conducting an online experience changes compared to the in-presence workshops; a conductor who supports and relaunches without forcing in one direction only, which competencies are to be activated, cultivating an empathic relationship – from initial

engagement (sharing), to welcome, encouragement during the experience, final greetings; empathy is related to people, materials and technology.

- Languages and new media: digital tools already support the use of different languages; how to enhance cross languages experiences, explore and use different new media.
- Documentation: Documentation is an integral part of the educational theories and practices. It makes visible the ways of learning of the individuals and the group; it enables reading, revisiting and assessing in time and space, giving structure to knowledge-building process (Rinaldi, 2006); how to create a meaningful documentation of online experiences.
- Scalability: It is important to create experiences that can inspire and support the work of teachers and educators at different levels and diverse contexts.

During the online workshops designed and proposed by the research team, the active role of the young students in the co-creation of learning processes through technologies was emphasized. As underlined, the use of participatory and collaborative platforms was aimed at sustaining children and adults' interconnected creative strategies as the element that defines learning processes. Participatory platforms became a larger space where collective design could take place. Three pilot workshops were designed, one based on narration, one on composition, one more focussed on materials – in the first phase twenty different workshops involving around 200 people were offered on various occasions. The participants were mostly teachers and children: in order to avoid a passive experience with digital technologies where children spend more time looking at screens than exploring materials and possibilities, the research team⁴ designed workshop experiences that were immersive, interactive and participatory, supporting the use of digital technologies for playfully designing and creating. Every workshop had a previous invitation with an engagement for participants. The choice of digital platforms, video conferencing apps, collaborative whiteboards were made according to the characteristics of each workshop and changed along the way from one experimentation to the other. The videoconferencing app Zoom was identified as the digital medium for the workshops, because of the possibility to create two or more «rooms» to split large groups into smaller ones and for the function of recording which allowed the research team to review the sessions and discuss them during the process of analysis and documentation. The opportunity to

⁴ The research team involved Maria Barbara Donnici, project coordinator; Lorenzo Manera, post-doc fellow; Eloisa Di Rocco, atelierista project ReMida, the Creative Recycling Centre; Elena Sofia Paoli, atelierista research project scintillae; Federica Selleri, atelierista research project scintillae; Ilaria Cavallini, pedagogical consultant; Jennifer Coe, atelierista research project scintillae; children and adults, co-researchers, who participated in the workshops.

work in both a large group and in small groups during the workshop, to create collective moments but also to have a more intimate space, seemed strategic for promoting a meaningful learning experience. Besides it, in order to offer a really interactive experience, the number of participants was restricted to 10 maximum, plus at least two atelierista⁵. Participants were always asked to use the «gallery» function, to be able to see everyone at the same time. Different collaborative whiteboards, from Google Jamboard to Conceptboard, to Miro were explored during the first months of the research.

Since time is a crucial variable in the learning process the designers ensured to plan enough time for introductions of people and activities, for the development of the co-construction of the experience, giving time to participants to express themselves. The media explored, the Zoom and collaborative whiteboards, despite their planetary pervasiveness, still needed to be studied, deconstructed, disassembled, reassembled and rethought together with children, teenagers, and adults in order to imagine the new digital design and hybrid education, where technology and expressiveness are in dialogue.

4. The workshop «Symphony of paper»

The workshop «symphony of paper» was developed after the collaboration of the research team with a group of preschool and primary school teachers involved in professional development activities as part of the project *Fare Scuola in progress*. The goal of the workshop was the exploration of sound qualities of paper. Teachers, introducing some experiences developed at school with different materials, reflect on how to work on the properties of materials and the possibilities offered by paper as a material in a context between the presence in class and the remote connection through digital technologies.

Together with their students, they explored and recorded the sounds produced by different kinds of paper materials. The research around the sound properties of paper was born by chance and it emerges from the documentation where one can see different children playing with the paper's sounds.

The questions guiding experimentations were:

- How can we work/play/use materials without having them available physically?
- How can we continue to explore materials from a distance?

This workshop produced a creative use of technology, inviting the group of teachers to compose their own symphony through a tool that was not designed for musical composition but very used in Italian schools:

⁵ The atelierista is a professional with an artistic background who works in formal and non-formal educational contexts collaborating with teachers and educators.

Google Presentations. This was a precise choice: using a tool that teachers and students knew and used in their daily activity for new purposes and from a different perspective. Participants were challenged to modify their paradigms and beliefs related to the partial knowledge and basic use of digital tools. They experimented, first-hand, the many possibilities and the great potentials of tools through a research approach. Thus, allowing more trust in technology and broadening their interest and their digital competencies.

The workshop was developed in four stages:

- a research stage as individuals or small groups experiencing the sounds of paper and recording them;
- a second stage in a larger group to listen to recordings and sharing visions and reflections;
- a third stage in smaller groups again to experiment the sound composition through Google Presentations and the use of the previously set sounds' archive;
- the last stage to share the symphonies composed with all participants.

Working with a material well known and present in the activities at school such as paper, but shifting the focus from a visual or tactile approach to auditory, has required the group to experiment a new language: the language of sounds. A language that, like others, opens up scenarios of research, new imagery, thanks to different codes of expression and interpretation.

The use of digital instruments to record, store, reproduce and compose sounds has supported and amplified the research around this suggestive property of paper.

The idea to 'manipulate' an intangible material such as sound to compose and return images, suggestions, atmospheres, and soundscapes, has stimulated the group to take new paths using technology to support the expressiveness of materials.

Without any musical competencies, each participant manipulated sound, discovering its alphabets and communicative rules. They have reflected and worked with many aspects of musical composition such as repetition, variation, duration, rhythm, pause, timbre and have done so naturally meeting and responding to what the experience put in place. There were many borrowings from other more familiar fields, such as visual composition.

Thanks to the remote connection on the Zoom platform and the virtual workspace of Google Presentations, the experimentation, and the final output were developed by the different groups involved by agreeing, sharing ideas, suggestions, doubts, competencies, and overcoming technical difficulties. Creative gaps kept a continuous dialogue going, collaborating for an open and common goal, in a relaxed time to think, try and try again. The pleasantness and positive aspect of the experience contributed to the strong link with the emotional and immersive factor that sound stimulates, the possibility to share and connect the research

to one's own experiences, subjectivity, and a look always turned to the imaginative aspect of the experience.

Conclusion

This contribution aimed to share a framework to foster the possibility to interpret participatory online platforms as spaces where collective design processes can take place. This interactive paradigm, based on the concept of intermedial imagination, was designed to promote a critical and diverse use of online platforms. Digital learning contexts were designed by referring to an idea of technology diffused and integrated, involving children and adults in the active investigation and «movement» between digital, analogue tools and expressive languages, exploring new ways of using and interpreting participatory online platforms. What usually happens when using digital technologies in educational contexts, is that children and adults interact with them, but do not create with them (Resnick, 2017). The idea to propose a research question to participants attending the workshops had the goal to open up a more creative approach to learning both for individuals and groups. It made the research approach more participatory and thus democratic. The experiences described in this contribution, even though requiring further explorations and developments, represent an attempt to develop and promote ways of looking at and using online platforms actively and creatively. The creative margins of such experiences were fostered by the proposal to integrate the opportunities offered by digital platforms with the multimodal exploration of analog materials such as paper, recording different sounds and interpreting them, a proposal which allowed participants to elaborate various strategies for re-interpretation. Both the digital platforms and the analog materials were intended as expressive material that could be explored and reinvented: the research team stressed the importance of keeping the subjectivity of children, teenagers, adults at the center of the experience. Starting from the subjectivity of each person means considering their way of interacting with others, their learning pace and their past experiences. It means recognizing the diversity of competences, intelligences and different languages that each of us approaches and practices in a unique way. The value of an individual becomes community. The exploration of how the perception of children and adults works when multiple possibilities of interaction are offered opens up new possibilities for developing creative ways of using online platforms that need to be further explored and researched.

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Educating Digitally Competent Teachers. Theory, Models, and Practices

The Finnish Educational Community at the Time of COVID-19, Perceptions and Experiences

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ABSTRACT: *The spread of the pandemic and the interruption of face-to-face lessons, which have given way to distance learning, have introduced challenges and new opportunities for educational institutions, school principals, teachers, students and their families. With the aim of outlining the response of the Finnish education and training system and the stakeholders involved in it to the emergency circumstances, this contribution wants to investigate how the Finnish education community has responded to the events of spring 2020, how is it responding now and what was the starting point before the pandemic. Through a documentary analysis on the studies conducted in Finland starting from March 2020 and on the data coming from the international context, it wants to analyze if and to what extent Finnish schools were prepared for digital learning, what was the technological preparation of teachers as well as what is their point of view and that of students and families (Ahtiainen et al., 2021, 2020; Koskela et al., 2020; OECD, 2021, 2020c, 2019a). In a delicate moment like this, taking into consideration the point of view of those who have lived and are experiencing school closely can be a good way to overhaul on what may be the points on which to reflect in order to better construct the school of the postpandemic future (Sahlberg, 2021ab).*

KEYWORDS: *COVID-19; teacher training; digital skills; distance learning; Finnish school system.*

Introduction

The lockdown due to the spread of COVID-19 has interrupted the traditional way of teaching by moving the interactions between the participants in the teaching-learning process in the digital world. In the last year, the socio-educational crisis has been added to the health crisis: in many countries schools were not yet prepared to face digital learning, students had to learn a new way of being in the classroom by sitting away from their classmates and in front of them to the screen of a digital device connected to an internet network that is not always available, while the teachers have had to adapt to new teaching models that have confronted them with the many difficulties and opportunities offered by the web and technologies information and communication (ICT) (OECD, 2020ab, 2019a; Save The Children, 2020; Schleicher, 2020; UNESCO, 2020).

In such a scenario, digital skills represent a crucial node for both students and teachers as the more they feel trained, the more they incorporate them into daily teaching practices (OECD, 2019a). International data, however, report that 20% of teachers say they need to be educated more in this area and that in 2018 only half of them allowed students to use ICT frequently during classroom work. However, the situation is not the same in all parts of the world. In some countries the percentage reaches 80% while in Israel, Romania and Finland in the last five years there has been a doubling in the educational use of ICT. If on the one hand the teachers of the latter country in 74 cases out of a hundred report that they had been professionally updated on ICT in the twelve months prior to the survey (OECD, 2019a), on the other hand how the situation affected them current?

In light of this, this contribution aims to analyze the studies that have examined the reaction of the Finnish school system to the pandemic and the readiness to use technologies as a teaching aid. Specifically, a research still in progress carried out starting from the spring of 2020 by the universities of Helsinki and Tampere on the perceptions and experiences related to distance learning in emergency will be discussed, focusing attention on the various protagonists involved, teachers in primis, and by relating what has been collected with data from the international context (Schleicher, 2020; OECD, 2019ab). The spread of the pandemic has led to different ways of reacting and the shift from teaching in presence to distance teaching has also happened quickly in Finland. Following the worsening of the epidemiological situation, in fact, the Ministry of Education has issued some directives, but it has emerged that schools, school leaders, teachers, students and their families have experienced this change in different ways (MinEdu, 2020). The management of educational institutions, the well-being of the staff, the evaluation of students, the adequacy of digital infrastructures, the equity in access to teaching in emergency, the support provided, the resilience of the actors involved in these particular circumstances as well as the skills owned digital devices will be some of the topics taken into consideration (Ahtiainen et al., 2021; Ahtiainen et al., 2020; Vainikainen et al., 2020).

1. The measures to combat the pandemic in Finland

When on 11 March 2020 the World Health Organization (WHO) assessed the epidemiological situation as a pandemic due to the increase in the geographic areas touched and the number of people infected, all the countries of the world found themselves affected by the restrictions to COVID-19 which impacted not only on educational systems, but also on health, social and economic systems (Vota, 2021). The invitation made to the nations during the conference in which the director general of the WHO considered the international outbreak as a pandemic, in fact, was

to take adequate measures to prevent the aggravation of the already compromised situation.

In the specific case of Finland, where coronavirus patient zero was registered between 28 and 29 January 2020, the central government acquired more decision-making power at the expense of decentralization. In fact, a two-step strategy was implemented to contain the consequences of COVID-19 infections: a first phase of immediate and targeted intervention and a second phase, still in progress, to exit the emergency situation. In Finland, as well as in other parts of the world, attention was initially paid to the health system in terms of containing the virus in such a way as to balance access to hospital facilities and be able to treat the most vulnerable people. Five days after the statements released by the WHO, the Finnish president declared a state of national emergency (Finnish Government, 2020). This declaration was followed by a series of closures that also involved the education sector, so much so that face-to-face lessons at school and university were suspended and on March 27 the restriction of traffic to and from came into force for the Uusimaa region (the Helsinki region). In the following period, some recommendations and restrictions for the most vulnerable and for labor policies were introduced, while others were removed. In June, however, the state of emergency was eased. The second phase, currently still in progress, provides for the consequential removal of some restrictions and the gradual reopening of activities. The Finnish government in one of the reports published in 2020 (Finnish Government, 2020) stated that it wanted to be ready both to loosen the restrictions and to gradually reintroduce them if needed (Argento et al., 2020), defining the strategy adopted as a «hybrid», that is a strategy that on the one hand has resorted to testing, isolation and tracking, while on the other hand to the transition from restrictive measures to more soft measures.

Finland's response to COVID-19, as can be seen, was mainly based on legal measures, flanked by the powers assumed by the government in a moment of emergency. In particular, the management of the first months of the pandemic was accompanied by recommendations to citizens and employers. The most incisive and unilateral decisions were introduced with the evolution of the epidemic situation and required a united effort from all the actors involved (Tiirinki et al., 2020).

The data relating to the tracing of the infections were provided by the government research and development agency, the Finnish Institute for Health and Wellness (THL), while the decisions regarding the economic plan were made in consultation with the parliament. As for this last point, the initial budget for 2020 included some financing for unforeseen events, but already in the first half of the year the government issued another three budgets to support the first. Although some analysts believe that the crisis caused by the pandemic is more massive than that caused by the economic recession of the years 2000-2010 as it affects the economy through multiple channels, the four total budgets launched by the government today amount to € 9.6 billion of additional expenditure (17%

more than expected in 2019) and among other items include emergency measures and substantial increases for social spending such as education and training (Tiirinki et al., 2020).

2. The Finnish school system in the face of the pandemic emergency

The spread of the pandemic involved Finland like many other countries: in March 2020, the Finnish government in agreement with the president of the republic notified the exceptional circumstances caused by the pandemic and took special measures to protect the population (initially in force until April). Subsequently, it implemented an emergency law in parliament and, finally, on March 18, 2020, distance learning was started. After this date, face-to-face lessons were only organized for some school grades, for students with working parents in critical areas to the functioning of society, such as nurses and doctors, for students with special educational needs or for those whose parents were unable to organize home schooling.

Despite the organizational and logistical difficulties, during the distance learning period one third of children attended kindergarten, while less than 10% attended grade 1 to grade 9 classes. Local authorities responsible for education, even in non-emergency times, took care of the shift of educational processes from the classrooms to the home environment until the middle of May when, just before the start of the summer holidays, about 90% of the students returned school and more than half of the children in kindergarten (Sahlberg, 2021a).

Undoubtedly no education system in the world was prepared for such an unexpected event and such massive use of digital learning, yet some school systems have reacted more resiliently than others. A report, *Learning remotely when schools close: How well are students and schools prepared? Insights from PISA*, published by the OECD immediately after the outbreak of the pandemic and based on the results of the latest available edition of the PISA survey on the skills of 15-year-olds (OECD, 2019b), Program for International Student Assessment, shows that in Finland in the 2018, more than 90% of students had access to a quiet and isolated place where they could concentrate to study and just under 95% of them could use a personal computer to do their homework. Having an adequate workstation and a tool that allows you to surf the web, however, is not enough: for digital learning there is also a need for a good internet connection and adequate preparation by both educational institutions and teachers. In Finland, access to the network among 15-year-olds is almost universal and as regards the other side of the coin of distance learning, namely teachers and resources made available to the school, the situation is heartening. These two variabilities are one of the indicators that measure the readiness of a given educational system to the challenges and opportunities of technology. In this specific case, as already illustrated for the students and the resources

available at home, Finland is among the countries that can boast a good predisposition to digital learning: the schools in addition to being quite well equipped from a digital point of view, have also technologically trained technical assistants (in the questionnaires addressed to schools in the PISA survey, Finnish school leaders agreed that more than 60% of students are in schools where there are technical assistants sufficiently qualified in the use of digital devices) and make at least one online learning support platform accessible to 80% of students (OECD, 2020c).

3. The point of view of teachers, students and families and the use of technologies

With the aim of investigating the preparedness and reactions of schools, school leaders, teachers, students and families to the pandemic, in May 2020 an inter-university consortium formed by the universities of Helsinki and Tampere presented to the Minister of Education a project for a nationwide research. The intent was to describe and explore the way in which all actors more or less involved in the education system have responded and are responding to the emergency situation, since it has been realized that the latter varies considerably. Thus, having received the approval, from 18 to 24 May 2020 the research group made up of experts from the two universities sent a notification with an invitation to participate, instructions and links in Finnish and Swedish to access the online survey for all school administrators from Finland asking them to disseminate the questionnaires to all recipients through the communication channels usually used by the institution. Five prearranged electronic questionnaires were administered in the study for school principals, teachers, school staff, students and students' parents/tutors (Ahtiainen et al., 2021; Ahtiainen et al., 2020).

The first published results, highlighting how students, teachers, school administrators and parents have experienced the interruption of the traditional way of being at school, bring out some data on which it is good to reflect both in the present and in the future: about 25% of students (N = 56,000) and 40% of parents (N = 36,000) claim that they received less support from the school during the distance learning period. Furthermore, among young people, the habit of staying awake in the evening in front of digital devices was much more popular than in the pre-pandemic period, although one in five secondary school students said they had problems with home connectivity (Ahtiainen et al., 2021; Ahtiainen et al., 2020). As underlined by both the authors of the research and by Sahlberg (2021a), the reflection on the first results brings out a very important and unexpected aspect: despite the concerns of professionals and parents, in Finland more than half of students who have not still at the end of compulsory school stated that they appreciated distance teaching and that they learned at least as much as they would

have learned in the classroom (Ahtiainen et al., 2021; Ahtiainen et al., 2020).

The questionnaire addressed to teachers, on the other hand, was administered from 20 May to 7 June 2020 in electronic format and was filled in by 5,361 teachers from 853 schools and 218 different municipalities. Inside it was divided into seven macro-areas: disciplinary content and pedagogy, learning support, students with special educational needs, digital technologies, school-family collaboration/communication, work support structures and workload.

FIG. 1. How have digital infrastructures (e.g. computers, internet connections, software and teaching materials) hindered you in organizing and implementing distance learning?

	Not at all	A little	Enough	A lot
My digital infrastructure	40%	33%	24%	3%
Students' digital infrastructure	15%	40%	38%	7%

Source: Ahtiainen et al., 2021; Ahtiainen et al., 2020.

As can be seen from Fig. 1, most of the respondents to the question «How have digital infrastructures (e.g. computers, internet connections, software and teaching materials) hindered you in organizing and implementing distance learning?» stated that their digital devices, their internet connections, their software and learning materials worked well, while those of the students were not perceived as working as often (Ahtiainen et al., 2021; Ahtiainen et al., 2020).

On the contrary, with regard to the teachers' digital competences, the respondents stated that during the period of interruption of face-to-face lessons, digital competences developed thanks to the exceptional circumstances that required a quick adaptation to the new needs. More than two thirds of teachers, however, believe that this teaching experience in exceptional circumstances could have a decisive impact on their way of being in the classroom when the emergency is over. In fact, 89% felt a growing workload, much more than normal, during the lockdown, while the majority reported having taught remotely from home, using their personal computer in 27% of cases and in 56% of cases, also supporting the work with the mobile phone. While about 30% of teachers collaborated with colleagues, another 30% felt less collaboration than usual, while the remaining 30% more collaboration than usual – referring to the pre-pandemic work environment.

Particularly important in such a scenario is the parents' point of view. In Finland, the relationship between school and parents is regulated by the law and by the guidelines contained in the national core curriculum which gives schools the responsibility of building collaboration and support networks (Finnish National Board of Education, 2016). In May

2020, the team of Koskela and colleagues (2020) investigated the perception of parents regarding home schooling during the closing period of the schools. Thanks to a questionnaire disseminated via social media, it emerged, among other things, that knowing how to use ICT fluently is a resource both for teachers and for parents who have assisted students/children at home. Parents greatly appreciated the teachers' use of mobile phones, in fact the lack of this last tool is defined as a challenge for good cooperation. Educational institutions have a fundamental role that increases even more in emergency times like these in supporting and strengthening relationships with families as this is the only way to achieve an inclusion that takes everyone into consideration (Koskela et al., 2020).

Both from the point of view of families and from the point of view of teachers and school principals, the presence and use of technologies at home and in the classroom is one of those issues that have been debating researchers for some years. If the students between 10 and 16 years of Ahtiainen and colleagues (2021; 2020) were right, in fact, it would need to completely rethink the way of teaching school by gradually introducing the use of computers or tablets in daily teaching practice (Sahlberg, 2021ab). The importance and topicality of the issue in Finland is evident from the fact that even before the arrival of the pandemic there was a debate on the availability of the technology. According to the results of the 2018 OECD-TALIS survey (OECD, 2019a), 20% of Finnish school principals say that the training offer provided by their school could improve if digital technology were more adequate and less deficient (compared to 25% of the OECD average), but more than half of teachers report making their students use ICT «frequently» or «always» during classroom work: this result on average with the OECD could depend on the fact that for 56% of teachers the use of technology was included in the initial training course and that 21%, once they finished their studies, felt prepared to introduce digital devices in teaching. The most encouraging data that the OECD-TALIS survey highlights, however, is that on professional development and on-going training: 74% of teachers in the twelve months prior to the survey were also trained on the use of ICT for education, although a considerable part of them still remains, 19%, who say they need more training (OECD, 2019a).

In the wake of these findings in 2019, just before the outbreak of the pandemic, the Finnish National Agency for Education carried out a nationwide study with the aim of investigating the insiders' point of view on learning materials, on tools available for teaching and on future expectations, drawing the basis from which we started to face the emergency event. The study was attended by 1,500 teachers of kindergarten, compulsory school and secondary school, school principals and various officials working in the field of education within the municipalities. The results show that even before the emergency moment the learning platforms were well accessible both in the first and second cycle of education, but also in kindergarten: the platforms were available

for 75% of primary and secondary school teachers and for 92% of teachers placed in vocational training. In fact, only one tenth of primary school and vocational education teachers and less than one fifth of general education teachers had not yet used learning platforms. In the fall of 2019, teachers made extensive use of textbooks and digital extensions, but also of photos, videos and alternative texts, such as news in newspapers. The responses to the questionnaire also indicated that, in line with the OECD-TALIS 2018 results (OECD, 2019a), teachers feel the need to want to be increasingly trained in the use of digital materials in a pedagogical key: it seems, from the results provided, that the more digital devices are incorporated into daily teaching practices, the more the need for teachers to receive training increases.

Conclusion

Digital technology allows to find entirely new answers to what people learn, how they learn, where they learn and when they learn. It can elevate the role of teachers from imparting knowledge towards working as a co-creator of knowledge. In such a scenario digital skills represent a crucial node for both students and teachers that as more they feel trained the more they incorporate them into daily teaching practices (OECD, 2019a). During school closure digital resources became the lifeline for education and the pandemic pushed principals, teachers, students and families to quickly adapt to teach and learn online. Virtually all countries have rapidly enhanced digital learning opportunities for both students and teachers and encouraged new forms of teachers collaboration: online platforms were used at all levels of education, in particular mobile phones were common at secondary level, radio at the upper secondary level and take-home packages and television at primary level (OECD, 2021)

International data like OECD-TALIS survey reports that in 2018 20% of teachers said that they need to be more educated in the use of ICT, but in some countries, like Finland, in the last five years there has been a much more frequent pedagogical use of ICT. It is not enough, in fact the pandemic has stressed the importance of training even if teachers who responded to the Finnish survey had implemented distance learning during the exceptional period (Ahtiainen et al., 2021; Ahtiainen et al., 2020). In general teachers saw their own digital infrastructure as mostly working and experienced more challenges and shortcomings in students' digital infrastructure. In particular in primary school the shortcomings caused by digital infrastructure were experienced more often than in secondary school (Ahtiainen et al., 2021; Ahtiainen et al., 2020). This point out that support and additional resources are useful in daily life of schools. It can be targeted at very different students and community ability of experiences in terms of collaboration and sharing of best practices.

The contribution presented here by comparing the international data with the national research carried out in the Finnish context both before and during the pandemic, had the aim of highlighting the starting points on the one hand, but also what happened and how the Finnish educational community is living the emergency event on the other hand. Despite some restrictions, first of all the interruption of lessons in presence at both school and university have a negative impact first on health and well-being and secondly on the economy (Tiirinki et al., 2020). Anyway, Finland and its educational system has shown that there are three elements that have supported the sudden change from face-to-face teaching to remote teaching at home. According to the data presented in the previous paragraphs, in the first place, 75% of Finnish teachers during the period of interruption of face-to-face lessons were able to use digital devices made available by the school. Secondly, most of them, moreover, according to what is indicated by both national research and international data from the OECD-TALIS survey (OECD, 2019a), were already familiar with these devices even if the degree of preparation varied from teacher to teacher and from school to school. Thirdly, the national guidelines on the curriculum already prior to the pandemic gave great importance to the use of skills to solve problems very similar to those in real life: students' have developed autonomy in learning and the ability to self-evaluate their own learning in terms of self-assessment (Sahlberg, 2021ab).

There have been difficulties, challenges and crises, even the Finnish school system and the educational community have found themselves faced with moments of stress and bewilderment, but, even taking into account the differences in the reactions that have occurred, the possession of a solid foundation from which to start to organize distance learning and to implement home schooling with a view to supporting teachers, students and their families, and the feeling of trust and collaboration, together with equity, have proven to be a winning key of Finnish educational culture even in pandemic times (Sahlberg, 2021b; Kelly et al., 2018).

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How to Improve Visual-Spatial Skills through a Digital Enhancement Program

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ABSTRACT: *Starting from kindergarten, the child is called to experience a variety of elements drawn from his learning environment, so as to facilitate his transition to primary school (MIUR, 1991; MIUR, 2012; MIUR, 2018). The international literature (Kaldenberg et al., 2015; NAEYC 2009) argues that, at the base of literacy or mathematical skills, it is necessary to refine specific precursors for subsequent learning, such as visual and auditory discrimination, phonological awareness, manual eye coordination, visual-verbal association and phonological memory. In researching empirical evidence of the link between visual-spatial intelligence and the preschool period, a body of knowledge emerges regarding the criteria and the conditions for promoting cognitive enhancement paths through the use of interactive games. This paper aims to present the design approach of the VIEP-app software model (Calvani, Zanaboni, 2018), a user-friendly application for computers, tablets and smartphones, intended for preschool children to increase their visual-spatial skills to be used both in presence and at a distance. The authors intend to demonstrate how an ad hoc software application, if placed in systematically structured activities, offers to children the opportunity to understand spatial relationships, by refining their ability to discriminate shapes and colours, to manipulate objects or to identify positions in the space (Vegliante, Miranda, 2020). From a methodological point of view, this app is part of a wider program consisting of playful-interactive sessions of exercises differentiated by levels of difficulty. After an initial training phase, the teacher guides and supervises the child in interacting with digital devices through a touch screen by dragging, assembling, rotating or manipulating the figures and receiving vocal feedbacks able to maintain high motivation. The created software model allows interfacing with multiple communication channels simultaneously so as to enrich traditional learning experiences. In conclusions, there are some summary considerations on the possible progress of the research and with the aim of demonstrating in which situations and in what ways this kind of enhancement program can contribute to the elaboration of visual-spatial representations in preschool age.*

Even though the authors have jointly conceived the paper, Rosa Vegliante edited sections «Introduction» and «Conclusions and future works»; Sergio Miranda edited sections «VIEP-App», «The architecture of VIEP-App» and «Experiments and expected results».

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KEYWORDS: *Preschool age, Visual-spatial skills, Cognitive enhancement, Software model, Teacher training.*

Introduction

The cognitive enhancement means amplifying or extending the mental abilities of the people in terms of many and complementary dimensions. In particular, it includes the abilities of perceive and acquire, pay attention and select, represent and comprehend, memorize and, finally, make decision by using relevant information.

In the reference literature, many authors (Vygotsky, 1978; Büchel, 1995; Paour, 2003; Feuerstein et al., 2008; Moore, 2011; Diamond, 2012) state that the high-level cognitive functions are improvable and recent studies confirmed this in neurological context on the plasticity of the brain. However, a systematic approach is required to develop these high cognitive functions. The approach is characterized by finalized practice and gradually changing experiences by using of previously structured material. In addition to the materials supporting the training of cognitive functions, it must be emphasized the possibility of building in the child the capacity for internal verbalization that accompanies the solution of the problem. This is recognized as the «meta-cognition» that is the development of this skill at the basis of the modulation of cognitive processes. For this meta-ability we can make use of more or less guided modelling (the teacher shows how to reason aloud, and invites the child to do the same), using one of the methodologies that we know to be among those of greater effectiveness (Hattie, 2009).

As Calvani says (Calvani, Zanaboni, 2018), the cognitive enhancement is therefore based on carefully selected materials for the stimulation and training of cognitive functions, but it is also accompanied by a series of indications for the development of the metacognition. The cognitive enhancement is useful for all the subjects in the assumption that nobody has received the maximum possible stimulus, the best learning opportunities and the most effective mediation in their education. In particular, this is true for those with special educational needs.

In the area of cognitive skills, the visual intelligence has a great social and professional relevance. Although, it represents the greatest potential among all mental training techniques (Sandberg, Bostrom, 2009) it remains neglected in the common school curriculum.

The visual intelligence is generally evaluated by means of specific tests, but they are limited to statically recording of the level already reached by each subject. Calvani and Zanaboni (2018) proposed a method having a dynamic character, using a gradual and progressive level of training in a wide set of tables of games. Their approach was designed mostly for primary school pupils and young learners up to the age of twelve. It allows estimating three dimensions of specific cognitive

abilities. The first one is the ability to recognize visual patterns. It may be evaluated by means of interlocking games where, like in a puzzle game, the pupil has to find a piece able to complete a whole shape.

The second dimension is the visual inference. It includes both visual ability and logic intelligence. They are evaluated by means of games with series to complete; for instance, a series of figures where one of them is missing and the player has to find the right one to complete the series by choosing it from a set of alternatives.

The third and last dimension is the visual elaboration. This includes both visual representation and wider memory skills. This kind of games requires players matching figures and shapes from different perspectives.

By following this approach, some hypothesis of applying a restricted set of games with kindergarten children has been formulated (Raffaghelli, 2018). In fact, in this context, a selection of these tables may be adopted and, from them, many activities may be conceived and done.

However, this approach allows pupils doing a choice to match shapes and figures and it does not adopt any other interaction different from a touch or a click on a screen. The idea the authors of this paper intend to undertake is a manipulation of the shapes on a screen of a smart board or a tablet by means of drag and drop or rotation actions directly done by the young learners interacting with the game.

In order to identify the reference literature, the authors investigated the research databases SCOPUS and WoS and did specific searches. Many of them did not give any results¹. Although many educational applications using tablets and touchscreen devices for kindergarteners have been developed in the last decade, very few documents report the results on their effectiveness in the development of the intelligence of children aged 3-6 years.

The research on these themes started many years ago when a project (Romeo et al., 2003) investigated the use of touchscreens by children in early childhood and junior primary settings by introducing touchscreens in five classrooms in Melbourne. Several methods to obtain information about how children interacted with the touchscreens were used. The research identified potentialities of touchscreen devices to face developmental issues (Anthony et al., 2013; Huber et al., 2016). Recent initiatives highlighted that the use of these touchscreen technologies fosters dialogues of young learners with instructors, improves their learning performances (Nacher et al., 2020) and increase their social engagement (Hatzigianni et al., 2018). Since young children spend time

¹ For instance, the query «Visual intelligence» AND Development AND Kindergarten AND (tablets OR «smart board») AND app found no documents in the SCOPUS database. By removing the terms app, then development, then «smart board», then tablets, the queries still produced no results. Thus, they used the simple query «touchscreen AND kindergarten» that allows finding five papers.

playing on handheld touchscreen devices increasingly, understanding children's ability to learn from this activity is important (Strasburger, Hogan, 2013). A considerable gap is observed as to how the use of mobile apps relates to young children's understanding in diverse domains including science learning, and to extend, whether and how mobile apps should be used and how in early years' settings. The learning effects of touch screen mobile game applications have been examined on groups of pre-schoolers 4 and 5 years old. A study reveals significant improvements in terms of game skills and their understanding about some science principles (Herodotou, 2018). In addition, the use of games using a gestural interface device on 3- to 4-year-old children's ability to learn numeracy concepts has been investigated. Other research initiatives provided empirical evidence of the use of touchscreen technologies on young children's numeracy learning. Some of them found that young children's numeracy learning outcomes were improved with an implication to a need for a pedagogical model for successful integration of digital technology within early childhood settings (Dubé and McEwen, 2015; Tashnim et al., 2017; Disney et al., 2019).

Childhood is a fundamental opportunity to model inclinations destined to last a lifetime. The habits acquired by children, in particular what is called «visual intelligence», are characteristics that mature and are then difficult to modify. Therefore, in the general design of the brain, a child's experiences can, over the years, forge lasting connections in the regulatory circuits of the emotional brain (Goleman, 1996). Assessment of cognitive and motor functions is fundamental for developmental and neuropsychological profiling. Touch screen devices offer the opportunity to assess cognitive functions of participants by automating the assessment process with precision recording of responses. This enables cognitive profiling to be conducted in contexts where access to qualified examiners and standardized assessments are rarely available. As such, touch screen assessments could provide a means of assessing child development and for reliable and valid measures of performance (Miranda et al.,). Measures of spatial intelligence, visual attention, short-term memory, working memory, manual processing speed, manual coordination and mathematical knowledge were investigated. Results demonstrate that touch screen tablet technology can provide reliable and valid psychometric measures of performance in the early years, highlighting its potential to be used in cross-cultural comparisons and research but also it may stimulate progresses in the cognitive development of kindergarten learners (Pitchford, Outhwaite, 2016) especially if used in educational games. Computerized gaming can offer opportunities in terms of cognitive enhancement. Some studies in Italy have defined detailed criteria to keep in mind when designing activities supported by computerized games aimed at increasing children's cognitive skills in order to improve learning and promote school success. These criteria are applicable both to the design of activities to be carried out at school and in extracurricular development and recovery courses,

as well as to the design of specific games and software. Adequate planning is important because the use of playful technologies has proven to have great potential in improving attention and memory skills and executive functions, but does not automatically bring benefits on school learning and greater opportunities for educational success (Trincherò, 2014).

By taking inspiration from all these results found in the reference literature and, in particular, from the idea of Calvani (Calvani, Zanaboni, 2018), a new app has been realized for touch screen devices. It is a set of games for pupils up to the age of six having simple interface with few buttons and an avatar talking about the rules of the game, the actions to do, the progresses and the results. In this way, no reading skills are required from the players, but only touch, drag and drop actions directly on the screen.

In this app, each different cited table has been implemented as a different game. These games are shown to the player starting from the simpler ones and going on to the more and more complex ones depending on the progress and results of the pupil.

Since this app follows the described approach, it is expected that its use in kindergarten can bring advantages and progress in the development of visual intelligence. To understand if this could be true, a trial project was outlined to experiment the use of this app and measure the eventual progress it may introduce. In this project, schools and classes to be involved have been found, a program of employment of the app and its temporal articulation has been designed, a test to be submitted before and after the trial period has been identified.

By comparing the results of the test, if some improvement in the development of visual intelligence may be perceived, it could be possible to affirm with certainty that the use of this app brings real benefits.

1. VIEP-App

*VIEP-App*² has been realized for smart boards and any kind of electronic devices as computers, tablets and smart-phones. It needs as requirements a browser like Google Chrome or Mozilla Firefox and an active internet connection. Since the user has to do drag and drops, clicks and rotations to play, this interaction happens by means of a mouse, a touchpad or preferably by means of fingers directly on a touch-screen.

It has been conceived for young learners in the age range 3-6, so the most of its written information is also read by a talking dwarf that appears in all the pages.

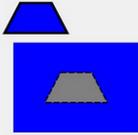
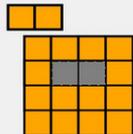
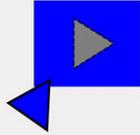
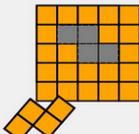
² <http://www.rimedia.unisa.it/viep/indice.html>

FIG. 1. *The home page of the app*

VIEP-App: Games for Kindergarten
VIEP - Visual Intelligence Enhancement Program

By A.Calvani, B.Zanaboni (and F.Leonetti).
 Interactive games form smartboard and touchscreen devices by S.Miranda and A.Marzano.
 Version 10/01/2020

[Click here to begin a guided game path](#), or click on the following games.

Games A: Simple joints	Games B: Simple "tile" joints	Games D: Joints with rotations	Games E: "Tile" joints with rotations
			
Game A 1 Game A 2 Game A 3 Game A 4 Game A 5 Game A 6 Game A 7 Game A 8 Game A 9 Game A 10 Game A 11 Game A 12 Game A 13 Game A 14 Game A 15 Game A 16 Game A 17 Game A 18 Game A 19 Game A 20	Game B 1 Game B 2 Game B 3 Game B 4 Game B 5 Game B 6 Game B 7 Game B 8 Game B 9 Game B 10 Game B 11	Game D 1 Game D 2 Game D 3 Game D 4 Game D 5 Game D 6 Game D 7 Game D 8 Game D 9 Game D 10 Game D 11 Game D 12 Game D 13 Game D 14 Game D 15 Game D 16 Game D 17 Game D 18 Game D 19 Game D 20	Game E 1 Game E 2 Game E 3 Game E 4 Game E 5 Game E 6 Game E 7 Game E 8 Game E 9 Game E 10

The work stems from a collaboration between the [University of Salerno](#) and the [SAPIE Association](#) ([www.sapie.it](#)).
 It is reserved for experimental purposes or to schools that participate in the Association's projects.

The home page (see Fig. 1) allows user going directly to play some games or signing in to follow a guided path. Of course, since the players are kids, it expects a tutor writing and scaffolding the players during their interactions with the games. It allows also logging and, then, comparing the data and the results.

The guided path starts by recording name of the player, gender, age and name of the tutor (see Fig. 2).

FIG. 2. *The first step for a guided path*

VIEP-App: Games for Kindergarten
Initial registration

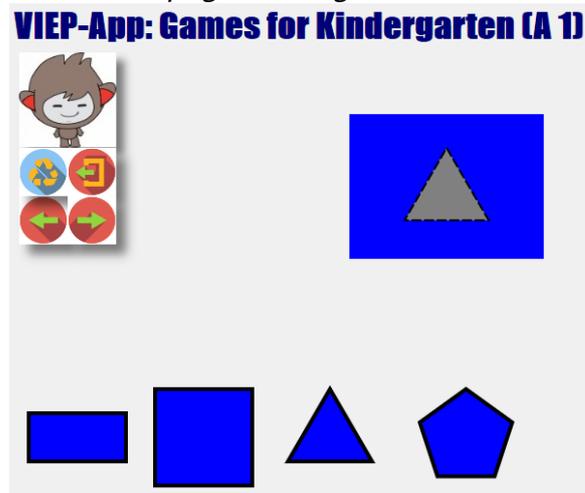
Please, before proceeding with the game, fill in the following fields:

Child's name	<input type="text" value="Jack"/>
Gender	<input type="text" value="Male"/>
Age	<input type="text" value="4"/>
Teacher/tutor's name	<input type="text" value="Brigitte"/>
<input type="button" value="Play"/>	

[Go back to the index page.](#)

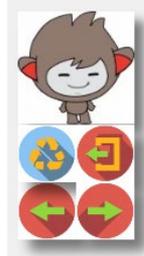
When the tutor has filled in the registration form, the player starts with the A1 game (see Fig. 3).

FIG. 3. *The page of the game*



The goal of the game is to complete the box by covering the hole with the right shape. The player has to drag the figure and drop it into the hole.

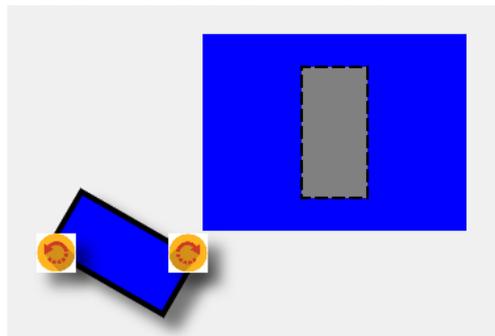
FIG. 4. *The toolbar and the talking dwarf*



During the game, a toolbar is always available to reload the game, to go back, to skip to the next page and to abandon the game (see Fig. 4). The talking dwarf is always there to talk about the game by reading instructions, giving suggestions or giving feedbacks after the actions done by the player.

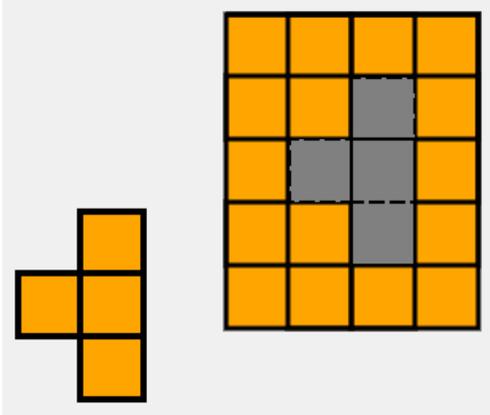
For instance, if the player chooses a wrong shape and drag and drop it into the hole, the talking dwarf says him to try again.

FIG. 5. *The rotation buttons*



The game allows players rotating the shapes. It is possible by using two touches together on the screen (if the device has a multi-touch screen; for instance, a tablet) or by using rotation buttons that appear by simply tapping on the shape to drag (see Fig. 5).

FIG. 6. *The tile-based game*



In the game, there are different kind of shapes: full figures and figures composed by tiles (see Fig. 6). Of course, by following the guided path, the difficulty of the games is gradually increasing. It means that the shapes or the actions asked to the player are progressively more complex in the steps.

FIG. 7. *Success*

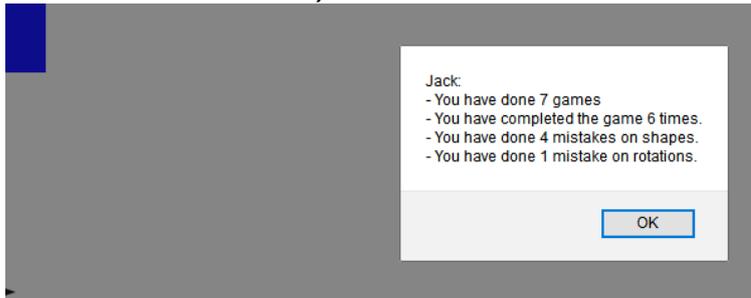


When the player completes the box by filling it the hole with the right shape, the talking dwarf will give him congratulations, a winning sound will be played and a cup will be shown on the screen (see Fig. 7).

When the player completes the game, he may go on to the following one by showing different shapes and figures.

When the player chooses to logout or when he completes all the available games, a summary of the results will be shown and read by giving details on all the successes, the failures and the mistakes on shapes or on rotations (see Fig. 8).

FIG. 8. *Result summary*



All the actions done by the player are tracked by the app on a database and all the data may be collected and compared for future analysis.

2. The architecture of VIEP-App

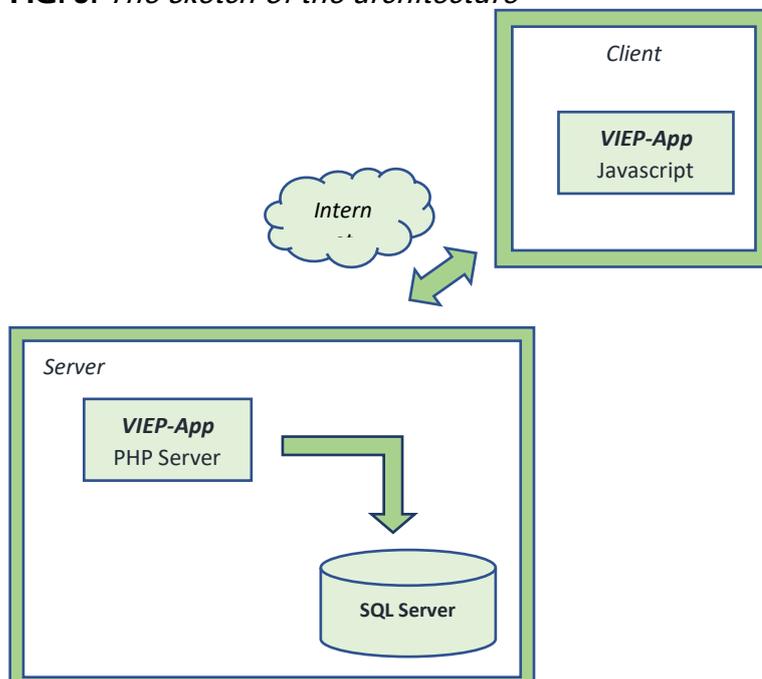
The *VIEP-App* has been realised by the following components:

- *VIEP-App* PHP engine
- *VIEP-App* Javascript client
- SQL Server database for contents and logs.

The first component is the *VIEP-App* engine that is a PHP system able to manage and deliver the content to the player. The second component is the client application. It has been developed in JavaScript and it allows users interacting with the engine of the game. The last component is the SQL Server database where contents are stored in terms of pages, shapes and figures to complete and where the users' logs are recorded during their learning activities.

A sketch of the architecture is in the following Fig. 9.

FIG. 9. *The sketch of the architecture*



3. Experiments and expected results

The evaluation activity in kindergarten responds to a function of an educational nature, which recognizes, accompanies, describes and documents the growth processes, avoids classifying and judging children's performance, because it is oriented to explore and encourage development of all their potential.

The evaluation could be intended as an intervention in the proximal development zone. The school makes sense if it intervenes on the difference between a skill or competence already mastered and a new one that is entering or is being consolidated, to facilitate its achievement (Vygotsky, 2008). In all school orders and for all subjects, this scaffolding action should take place. In kindergarten, it becomes almost more natural. Children are in fact so obviously in continuous and «galloping» evolution that interventions for facilitated growth, however, free from precocious stresses, are on the agenda. The intervention in these cases takes place in real time, consequent to the observation, in the immediacy of the evaluation of the potential detected. Evaluation in this way is never an end in itself but is always a function of the evolution of each child in interaction with others and it is an incentive to motivation (Keating, 2007). The learning mode is thus solicited and, today, it is considered the most meaningful (Fessakis et al., 2013).

In their research, the authors of this paper intend to conduct the experiments aiming to get progresses in the development of visual intelligence of the involved kids by appreciating the eventual improvement given to the introduction of *VIEP-App* into the kindergarten. This research objective is the main expected result.

To do it, four kindergarten schools around Salerno (Campania, Italy) have been contacted and the trial project is going to start in March of 2020 by engaging a hundred pupils whose age is 4 and 5 years. The kids, by mean of a specific sampling, will be divided in two groups: experimental group and control group. The experiments will go on a period of about 2 months. The pupils will follow different activity paths. Only the children of the experimental group will play the games of *VIEP-App* while the children of the control group will keep going on other school activities. However, for the analysis of the results, the sampling criterion adopted for the composition of the groups is fundamental. The two groups will include about the same number of children for each age (4 and 5 years).

To evaluate the results of all the participants of both two groups, a test to submit at the beginning and at the end of the period of experiments has been identified.

By investigating the different approaches available in the reference literature and able to support the evaluation in the kindergarten, the *School Readiness* (Coggi, Ricchiardi, 2014) seems to be the test to adopt. It is an original instrument of measurement of cognitive «readiness», suitable for Italian schools since it has psychometric characteristics considered valid to diagnose the cognitive state of up to 5 years old

children. Thus, it may be adopted to evaluate the effects of the use of this app into the school.

This adopted instrument (Coggi, Ricchiardi, 2019) is articulated in eight scales to detect the different cognitive processes, making intelligence work on iconic and verbal material. The exercises are proposed within different play frames. Individual administration takes about 30 minutes for form I that is the entry test and 30 minutes for form II that is the final test. Both of them are able to evaluate the following seven aspects:

1. Memory
2. Knowledge
3. Comprehension
4. Reasoning
5. Critical thinking
6. Creativity
7. Counting.

The first questions ask children to remember sequences of images and phrases. The next questions ask to name animals, environments, fruits and vegetables. The questions of third section ask to create relations between simple concepts and to order sequences of objects by size, shape or time. The fourth section requires the inference starting from simple questions. The fifth section requires identifying the error or absurdity in an image or the intruder in a set of objects. The sixth section requires young learners to complete a story by using their cognitive and lexical baggage or to construct different puppets starting from a set of pieces. The last section ask to count objects or to match counts with numbers.

These two forms have different questions for the different ages of the children (3, 4 and 5 years). Thus, for all the ages, the first one will be used as the entry test of the trial project and the second one will be used as the final test. These tests will be delivered to all the children belonging to both experimental and control groups. This allows tracking data for all the ages, groups and questions of the involved pupils. The analysis of results will consent to find any eventual difference from the first to the second test delivery.

The trial project will engage 4 and 5 years old children from the selected schools. It will be of about two months. During this period, only the children of the experimental group will be engaged in playing games of *VIÉP-App*. Thesis students will be engaged as tutors and together with the school teachers will guide each child in spending maximum 2 hours a week. Tutors and teachers as well have to help pupils during the games by allowing them feeling safe, not under examination, nor in competition each other. The children should perceive they are only playing new games.

In Coggi and Ricchiardi (2019) overall reference scores have been published. These data allows verifying eventual progresses and understanding whether the research objectives are reached on the real advantages from the use of *VIÉP-App*. The authors of these tests

highlighted also the reference scores for each section. This allows appreciating in details any kind of evolution from the beginning to the end of a learning experience by comparing the scores on all the sections.

In particular, for the trial project where *VIEP-App* will be experimented, benefits are expected in terms of possible improvements in the evaluation.

If the use of *VIEP-App* actually brings benefits, the authors expect to find clear progresses both in the overall evaluation and in the specific areas of the tests. Therefore, in addition to providing feedback on the actual improvements made by the use of *VIEP-App*, this trial project will also allow identifying in which specific areas these improvements will be seen and, moreover, on which age the effects will be more or less evident.

Conclusions and future works

The cognitive enhancement is based on carefully selected materials for the stimulation and training of cognitive functions. Among them, the visual intelligence has a great relevance but no enough attention in the common school curriculum and, moreover, static methods for its evaluation.

By getting inspired from the method proposed by Calvani and Zanaboni (2018) having a dynamic character, using a gradual and progressive level of training in a wide set of tables of games, a new app named *VIEP-App* has been realized.

This app may represent as a possible mean to improve the cognitive visual intelligence in the kindergarten. In fact, *VIEP-App* has been realized for touch screen devices (i.e. smart boards) as a set of games for pupils up to the age of six having simple interface with few buttons and a puppet talking about the rules of the game, the actions to do, the progresses and the results. Only touch, drag and drop actions directly on the screen are required from the players when their progresses lead them into the games from the simpler ones to the more and more complex ones.

To adopt this app, a trial project has been outlined and possible approaches and methodologies to develop it have been described.

Regardless of the verification methods, the trial project seems to promise interesting results. These results will be collected, compared and analysed by means of rigorous statistical methods. These activities will be described and presented in details in future papers.

For the moment, it is possible to underline that the teachers of the schools where this initiative has been presented have showed particular interest and enthusiasm, their feedback is very positive, thus the expectations are very high.

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Training Digital Competence of Future Teachers: the eTwinning Teacher Training Institutes Project

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ABSTRACT: *The pervasiveness of digital media in contemporary society – especially following the recent epidemiological emergency from COVID-19 – has led to redefining the boundaries between real and virtual and to rethinking teaching-learning processes through the mediation of new media and technological languages (Rivoltella, 2020). Digital tools are perpetually poised between virtue and vertigo (Quèau, 1993), at the mercy as much as those who demonize them – due to the various dangers of the network, from cyberbullying to cyberstalking, which ask the Screen generation (Rivoltella, 2006) to develop a critical and responsible thinking – as much as those who consider them an effective resource to promote learning and to rethink learning environments with a view to greater flexibility, diversification, organization, sharing and management of resources, collaboration and social networking (Bonaiuti et al., 2017). In this scenario, media education is necessary which, in line with European frameworks such as DigComp and DigCompEdu, allows to support the digital competence of teachers and students. The role of the teacher is redefined as a learning planner (Limone, 2012) within an integrated multimedia environment for teaching: if properly trained, he becomes a point of reference for promoting students' digital skills and making them aware of the risks and of the potential of new digital media, through a responsible, critical and reflective use of the same. Based on these premises, an innovative experience of training the digital competences of future teachers will be presented within the eTwinning Teacher Training Institutes project (Pateraki, 2018), conducted at the Mediterranean University of Reggio Calabria. The training project – in progress – represents a valid professional development tool (Perla, 2019) useful for stimulating not only the multicultural dimension, the culture of inclusion and internationalization processes, but also to share the adoption of good practices, the concept of digital citizenship of the school through remote collaboration conveyed by the use of technologies (ecd.generazioniconnesse.it).*

KEYWORDS: *New technologies, digital competence, teacher training, eTwinning project.*

New technologies in the complex society

Technological innovation has changed communication by revolutionizing operational and social characteristics. The most significant news, on the social level, is represented by interactivity, a central notion for the entire

structure of communication technological, as it allows new forms of dialogue with the recipient. We are immersed in the information society which becomes, at the same time, a «society of flows» (Castells, 2007), to indicate the continuous and constant exchange of digital information flows, transcending physical boundaries and reshaping contemporary society.

The pervasiveness of digital media – especially following the recent epidemiological emergency from COVID-19 – has led to redefining the boundaries between real and virtual and to rethinking teaching-learning processes through the mediation of new media and technological languages. In any case, new technologies are increasingly protagonists of the onlife era (Floridi, 2013), where real and virtual merge: in this new society, in fact, the boundary between the real world and the virtual world is broken down and there is no it is more difference between «online» and «offline», but there is indeed an «onlife». In this way, we are perennially connected and immersed in the information society: if on the one hand this process allows us to always be up-to-date and to keep up with the times, at the same time it exposes, especially the youngest, to various risks, inside the «net trap».

Surely the vertigo (Quèau, 1993) of the Web is represented by the various dangers of the web, from cyberbullying (flaming, denigration, impersonation, outing, inclusion) to cyberstalking, which very often harness users of the *Screen generation* (Rivoltella, 2006), as well as from various cybercrimes, at the center of which we find hate speech online and discrimination of racial, gender (body shaming) or sexual orientation. In this regard, our students of the *Mediterranean University of Reggio Calabria*, in a survey, agree that cyberbullying and related crimes are phenomena to be addressed especially in the school environment.

On the web, unfortunately, we are unable to empathize with others due to a prevailing emotional illiteracy. The web often becomes the place of appearance rather than being, a place where we show others fictitious identities, in line with what is called digital narcissism. Furthermore, every day the dark side of the web is enriched with new forms of deviance and online crime (iGloss @ 1.0 – the ABC of deviant behavior online – www.giustizia.it) such as vamping (surfing the Internet at night), gambling, sexting, grooming (solicitation of minors online) and online child pornography together with multiple forms of addiction, such as *Like addiction*, *Internet addiction*, *Internet Gaming Disorder* implemented by the so-called *Hikikomori*.

Digital tools, however, if used in a critical and responsible way, can be a virtue, become an effective resource for promoting learning and for rethinking learning environments with a view to greater flexibility, diversification, organization, sharing and management of learning, resources, collaboration and social networking (Bonaiuti et al., 2017). Surely, among the potentialities inherent in digital technologies we can include: Editability, that is, the modifiability and rapid adaptability; Interactivity, through tutorials and simulation environments for learning;

Access and management of remote resources for the teacher; Multimedia, through the integration, in digital documents, of texts, dynamic images, sounds, videos; the Reticularity, hypertextual / hypermedia aspect; Collaboration, through the expansion of communication skills, group potential, network learning (Bonaiuti et al., 2017).

Media education and digital citizenship skills

In this scenario, in order to exploit the potential of digital devices in the educational field, Media education is necessary which, in line with European frameworks such as DigComp and DigCompEdu, allows to support the digital skills of teachers and students. The role of the teacher is redefined as a learning planner (Limone, 2012) within an integrated multimedia environment for teaching: if properly trained, he becomes a point of reference for promoting students' digital skills and making them aware of the risks and of the potential of new digital media, through a responsible and reflective use of the same, welcoming new information from the web with a critical spirit. As recent theories on evidence based education argue (Hattie, 2009; 2012; Calvani, 2012; Calvani, Vivaret, 2014), a good teacher, in addition to taking care of the pupils, must be able to implement effective interventions, so as to be able to measure and reliably evaluate the learning outcomes acquired, metacognition, the development of citizenship skills, etc. This is why it is important for the teacher to be able to master planning, teaching, organizational, evaluative and psycho-relational skills, the result of the integration of theoretical knowledge and operational skills. Furthermore, again within the EBE approach, Higgins (2016) reports: greater effectiveness of technologies with additional function, compared to traditional teaching, rather than replacement; greater effectiveness of the collaborative use of technologies, in couples or small groups, rather than individually; greater effectiveness in mathematical and scientific skills rather than basic literacy skills; the effectiveness of technologies to support pupils with SEN; greater effectiveness of the use of technologies in time-limited programs, in which regular and constant use is foreseen, well focused on learning outcomes; the importance of the teacher's professional training in the use of technologies in terms of their effectiveness (Bonaiuti et al., 2017).

Rivoltella himself, for example, introduces the figure of the *technological teacher*, identifying four different profiles: the first one is the teacher who uses technologies in ordinary teaching, adopting a reflective attitude (Dewey, 1910) and seeking the most suitable solution to every situation; the second profile is the teacher who uses network technologies to communicate with their students, their parents and colleagues, through various possibilities of interaction made available by ICT; the third one is the teacher who builds a learning environment with

a strong technological character, organized around network communication; the fourth profile relates to the teacher who conducts courses or workshops on technologies, keeping a critical eye on the discipline.

All this in line with the provisions of Law 92/2019 in art. 5, in the matter of Digital Citizenship, which provides in particular to be able to:

- analyze, compare and critically evaluate the credibility and reliability of the sources of data, information and digital content;
- interact through a variety of digital technologies and identify the appropriate digital means and forms of communication for a given context;
- get informed and participate in the public debate through the use of public and private digital services;
- seek opportunities for personal growth and participatory citizenship through adequate digital technologies;
- know the behavioral rules to be observed in the context of the use of digital technologies and interaction in digital environments;
- adapt communication strategies to specific audiences and be aware of cultural and generational diversity in digital environments;
- create and manage digital identity, be able to protect one's reputation, manage and protect the data that is produced through various digital tools, environments and services, respect the data and identities of others;
- use and share personally identifiable information while protecting yourself and others;
- know the privacy policies applied by digital services on the use of personal data;
- be able to avoid, using digital technologies, health risks and threats to one's physical and psychological well-being;
- be able to protect oneself and others from possible dangers in digital environments;
- be aware of digital technologies for psychophysical well-being and social inclusion.

All this will be possible when the teacher, in a synergistic way, will be able to combine and integrate new technologies with disciplinary, pedagogical and technological knowledge, enriching and enhancing the teaching environment. The evidence of common practice, in fact, demonstrates how the simple use of new technologies does not imply a positive impact on student learning, but there must be targeted and competent planning of the digital world. Crucial, therefore, is the training of teachers:

The skills to be developed do not only concern a reflective and conscious use of technologies but also the didactic transposition of knowledge, the design and implementation of projects, the evaluation of the results obtained, all the organizational aspects and the system of good practices that can be hoped for evaluation as such if appropriately

supported by evidence. [...] Technologies alone do not work if teachers do not know how to define the objectives well and implement them, therefore it is necessary that the usual digital competence frameworks are integrated with didactic and pedagogical references (Bonaiuti et al., 2017)

The TPACK model of training – Technology, Pedagogy and Content Knowledge – proposed by Mishra and Koehler (2006) is in line with what has just been stated, starting from Shulman's studies on the pedagogical skills necessary for teaching. According to Shulman, teachers should be able to master both disciplinary and pedagogical content, through the integration of three components: Content Knowledge (CK), Pedagogical Knowledge (PK) and Technology Knowledge (TK).

3. The eTwinning Teacher Training Institutes project

On the basis of these premises, an innovative experience of training the digital skills of future teachers will be presented within the eTwinning Teacher Training Institutes project (Pateraki, 2018), conducted at the Degree Course of Science of Primary Education of the *Mediterranean University of Reggio Calabria*. The training project – in progress – represents a valid professional development tool (Perla, 2012) useful for stimulating not only the multicultural dimension, the culture of inclusion and internationalization processes, but also to share the adoption of good practices, the concept of digital citizenship of the school through remote collaboration conveyed by the use of technologies (ecd.generazioniconnesse.it).

The main benefit of participating in the eTwinning project is in the added value in the initial phase of the training of the future teacher: it is in fact an innovative teaching method that involves the use of ICT, foreign languages, teaching for projects, learning in multicultural context.

Mediterranean University of Reggio Calabria joined the eTwinning project two years ago, inserting eTwinning modules within the training path of future teachers of primary school.

3.1 Research: methodologies, tools and phases

Two structured questionnaires (with multiple choice questions and open-ended questions) were administered for the field research, conducted within the teaching of *Education and Learning Technologies*, to a reference sample represented by 54 students (I questionnaire) and 37 students (II questionnaire) who attend the third year of the Degree Course of *Science of Primary Education* and involved in initial eTwinning training (use of the eTwinning platform, use of ICT and simulation of a project).

The phases of the research were structured as follows:

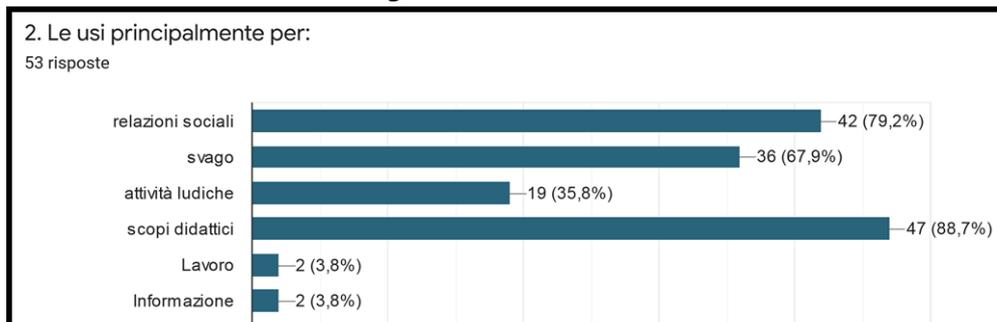
1. research hypothesis: how new technologies and eTwinning design can be effective on the initial education of future teachers.

2. initial information questionnaire on the training of future teachers on the use of ICT, foreign languages and innovative teaching;
3. final questionnaire, at the end of the eTwinning training and the *Education and Learning Technologies* course, in order to determine if a development in practice and skills has been detected;
4. collection, analysis and evaluation of data.

3.2 Initial questionnaire data

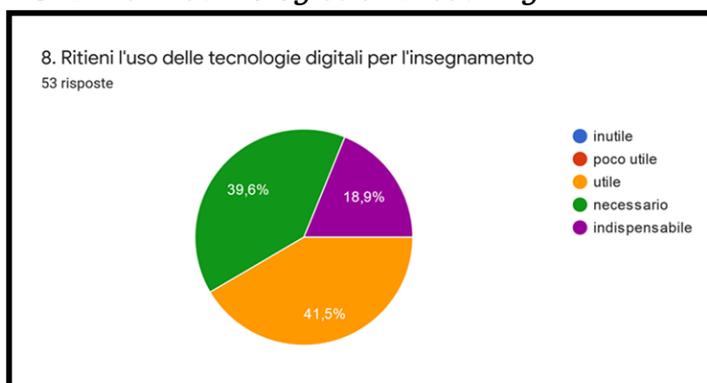
As for new technologies, 88% use them for educational purposes, 79% in social relations, 67% for leisure

FIG. 1. Use of new technologies

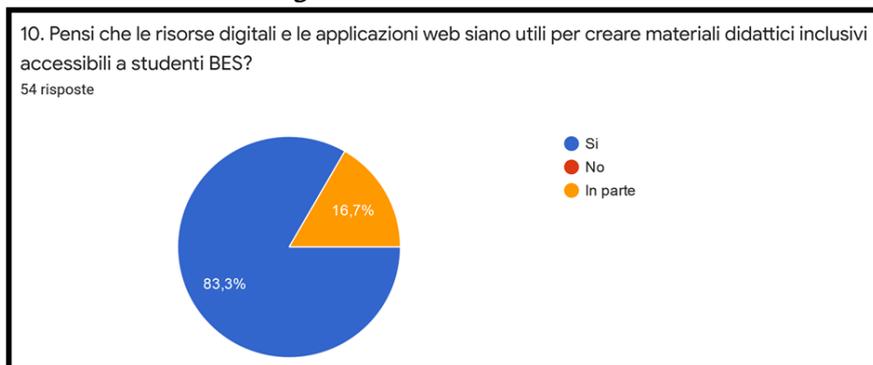


All respondents agree that new technologies are useful, necessary or indispensable for teaching.

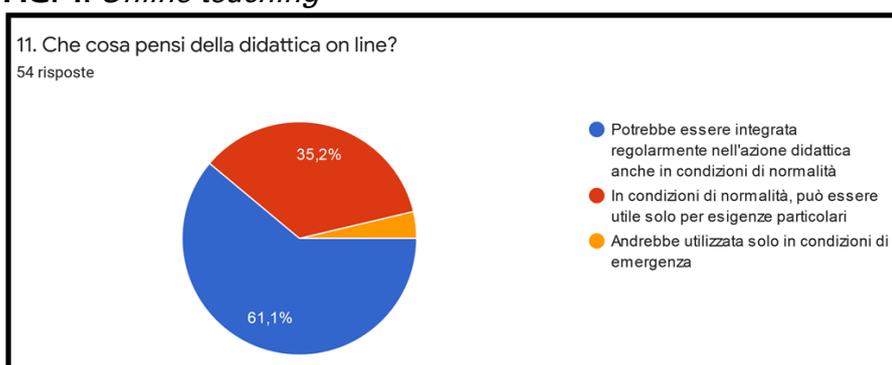
FIG. 2. New technologies and teaching



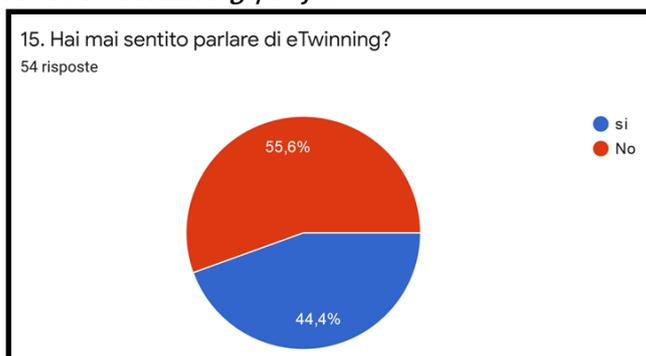
83% believe that digital resources and web applications are useful for creating inclusive educational materials accessible to BES students.

FIG. 3. New technologies and inclusion

With regard to online teaching, 61% are convinced that it could be regularly integrated into teaching even in normal conditions.

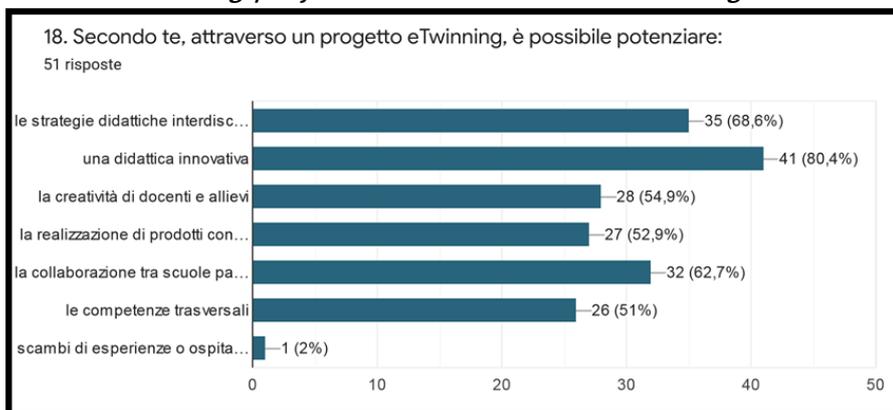
FIG. 4. Online teaching

44% of students, before starting the eTwinning training with ambassadors, had already heard about the eTwinning project, during university lessons, about the need for teacher training in technology or the possibility of collaboration and didactic intercultural exchange; at school or during direct internship at school; finally, some students, during the second year internship, participated with the school at the last meeting of an Etwinning project on the 2030 Agenda.

FIG. 5. eTwinning project

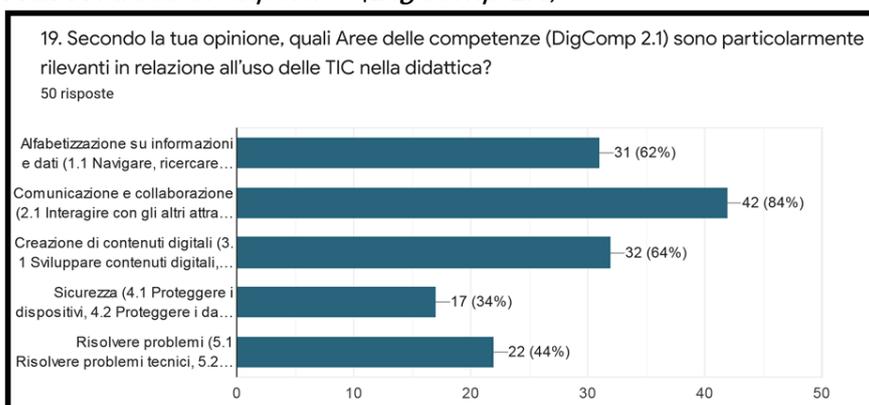
Furthermore, according to the interviewees, through an eTwinning project, it is possible to enhance innovative teaching (according to 41%), interdisciplinary teaching strategies (according to 35%) and collaboration between partner schools (32%)

FIG. 6. *eTwinning project between skills and teaching methodologies*



Finally, among the Areas of expertise (DigComp 2.1) in relation to the use of ICT in teaching, particularly relevant are Communication and Collaboration ((42%) and Digital Content Creation (32%)

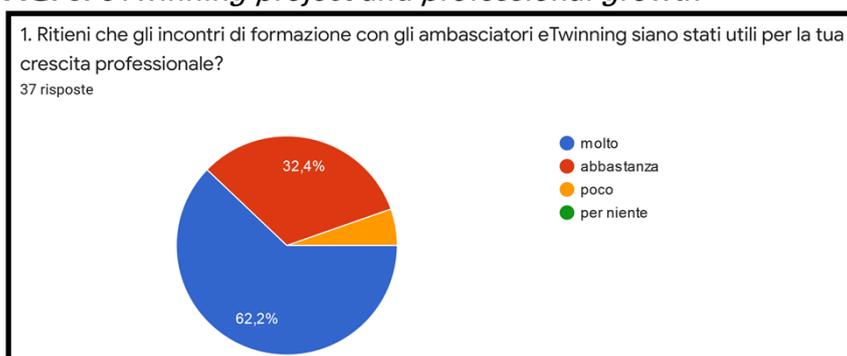
FIG. 7. *Areas of expertise (DigComp 2.1)*



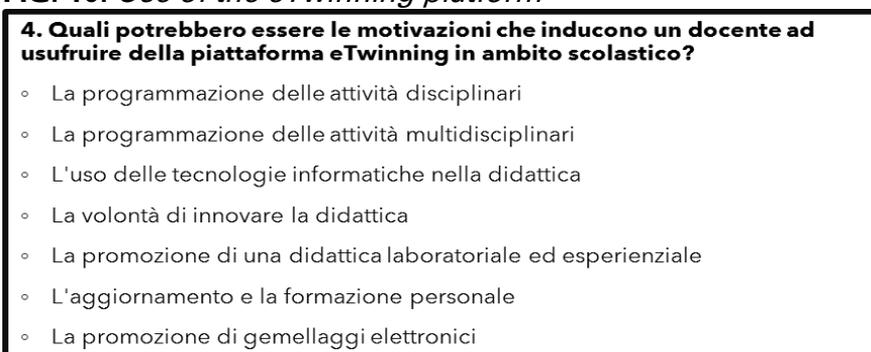
3.3 Final questionnaire data

62% of the students believe that the training meetings with the eTwinning ambassadors have been very useful for their professional growth.

Certainly, what aroused the most interest was the possibility of twinning with other countries as well as the different potential of the eTwinning platform.

FIG. 8. eTwinning project and professional growth**FIG. 9. eTwinning project and student interests**

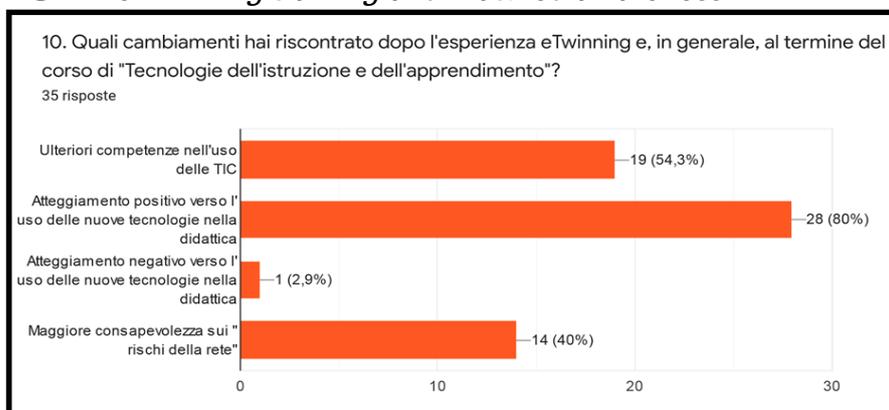
Among the reasons that lead a teacher to take advantage of the eTwinning platform in the school environment, there is the promotion of laboratory and experiential teaching for 64% and the desire to innovate teaching for 62%

FIG. 10. Use of the eTwinning platform

To properly approach the implementation of an eTwinning project, it is necessary to work more on digital competence (83%) and on the ability to work in a team (67%).

FIG. 11. eTwinning project and skills

Finally, as regards the changes encountered after the eTwinning experience, 80% have a positive attitude towards the use of new technologies in teaching while 54% found additional skills in the use of ICT.

FIG. 12. eTwinning training and matured awareness

3.4 Future prospects

Starting from the 2021/2022 academic year, students who participated in the first phase of eTwinning training (enrolled in the fourth year of the Primary Education Science course), will be actively involved in the realization of a real project, perhaps joining an international collaboration with other Institutes through the creation of one or more eTwinning projects, based on the commonality of interests and objectives.

Furthermore, for new students enrolled in the 2021/2022 academic year, as part of what will be the internship path, there will be the possibility to carry out the direct internship within those schools already accredited with eTwinning or which, in any case, have already started projects of this nature. Thus, once placed in schools and classrooms where the eTwinning platform is already in use, they will be able to carry out their internship by exploiting the skills acquired during the first phase of eTwinning design.

Conclusions

The data presented clearly shows the students' willingness to continue with the ongoing eTwinning project, to increase their knowledge of the platform and, above all, to plan a real projects and twinning with other European countries. Everyone agrees that eTwinning represents an important resource for the training of future primary school teachers who are increasingly called to know and use technologies in daily teaching practice, to support communication and learning in English, to work on projects involving students in an active way and developing learning training that favor the development of key competences and joining an international collaboration with other institutes. It is a series of good practices aimed at training future citizens in digital citizenship through Digital engagement, Digital responsibility and Digital participation (Council of Europe, 2017). In this sense, it is necessary to reduce the digital divide and promote inclusion and accessibility to the network, but technological access alone is not enough.

Without adequate preparation, it is not possible to conceive or implement training interventions capable of promoting inclusion, learning and participation. Without adequate preparation it is not possible to train the new citizenship skills of future citizens. The issue of digital teacher training plays an increasingly strategic role (Ranieri, 2021).

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Through the Screen: Reflections on Online Training Experience about Didactic and Assessment Use of Boardgames

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ABSTRACT: *The pandemic period faced us with the challenge of supporting teachers' professionalism through online tools, in order to expand their professional, pedagogical/didactic, and technological knowledge. The importance of using games in terms of learning is now consolidated and subject to an ongoing research work, which is highlighting its current role in teaching. It is therefore interesting to expand this theoretical framework through a more in-depth analysis of the use of boardgames in online mode. Therefore, research questions are as follows: a) how much are teachers aware of the impact on their teaching and professionalism by a course on the use of board games used in online mode? b) how can we consider a possible improvement of their assessment and self-assessment practices? The project «Il gioco fa scuola» is a training opportunity for the development of design skills, assessment and self-assessment through the use of board games in digital format. The 20-hours asynchronous course consisted of 12 modules. The contribution will present the results of a first survey carried out on project works, on the skill self-assessment tool and on questionnaires completed by 69 teachers of different school-levels, as well as the presentation of the project and its evaluation system. From the analysis of qualitative and quantitative results – made using the NVivo and R software, first results are: a) for what concerns the analysis of the learning process by means of the course in asynchronous mode, the teachers expressed a general appreciation for the modality; b) a substantial awareness of the improvement of each one's own professionalism emerges; c) the use of board games, both in presence mode and online, is perceived as an useful tool not only for improving students' learning, but also to assess the skills acquired; d) the proposed self-assessment process was found to be tiring in some places, but recognized as important for the process of improving each one's own professionalism; e) the receipt of feedback at the end of the course for the improvement of practices was particularly appreciated. Eventually, we will present a reflection about a new concept of «table game» and about using feedback methods activated online.*

It is necessary to thank for the reflections and sharing carried out with the group of «A Centro Tavola»: AgoFormazione, Sider s.r.l. and ForLudo. A special thanks to Gigi Cotichella, Antonio Di Lisi and Manuel Carboni, who have enriched the reflections reported in the contribution with their professionalism: all my affection and esteem goes to them. For the realization of the project «Il gioco fa scuola», we thank the company Docenti e Formazione – in particular Paola Mazzali and Stefano Braga – and the boardgames production company Asmodee Italia, in particular Luca Cattini and Ilaria Tosi.

KEYWORDS: *Board games; online-teaching; assessment; teacher's professionalism; feedback.*

Introduction

The pandemic period faced us with the challenge of supporting teachers' professionalism through online tools, in order to expand their professional, pedagogical/didactic, and technological knowledge (Mishra, Koehler, 2008). The importance of using games in terms of learning is now consolidated: the reflection on the potential of this tool in the field of teaching and assessment has been subject of research for several decades and subject of systematic reviews on the effectiveness of their use on outcomes in educational contexts (e.g. Noda et al., 2019). Starting from the famous work of Huizinga (1938), *Homo ludens*, which systematized the reflection on the social and cultural (and therefore also educational) role of the game, various authors contributed in the 1950s to construct its meaning, to put it into perspective. Different aspects interface with the development of humanity: if Bateson (1956) highlights its essence in fiction and in his awareness of the fictitious action, instead Fink (1957) outlines the ambivalence of meaning, underlining its significant role for the human being on the one hand and that of secondary importance activities on the other. Other contemporary authors (e.g. De Koven, 2019; Resnick, 2018) address the issue of the social and creative role in learning through play. In the Italian context, researchers belonging to the educational and training context have emphasized the different areas, highlighting aspects related to the role of game in the development of the individual personality (Cotichella, 2019), the context within the game takes place (Antonacci, 2019), the skills supported by the use of games (Ligabue, 2020; Trincherio, 2012), the executive and cognitive functions that they favour (Ricchiardi, Coggi, 2013).

Although always an object of interest, the assessment carried out through the use of boardgames has always found the appropriate research space, despite the great attention from teachers and professionals in this regard. In this paper, therefore, we will consider the use of boardgames not only as possible tools for assessment learning – that is the products of a learning process – by students, but also as an element to support learning, to the point of being assessment as learning (e.g., Earl, 2013). We will therefore consider playful assessment as an educational assessment, as it allows a possible change in the individual and contextual trajectories of individuals and in the processes subjected to evaluation through the implementation of cognitive, emotional and problem-solving strategies aimed at achieving an individual goal or shared.

The pandemic, as already mentioned, required not only a development of the teachers' digital skills, but also an improvement in their teaching and assessment skills, so that active teaching tools (such as board games) could also be used with a distance teaching method. For this reason, what was anticipated about the game found our interest in defining a training project for teachers that would allow us to answer the following questions: a) *how much are teachers aware of the impact on their teaching and professionalism by a course on the use of board games used in online mode?* b) *how can we consider it as a possible improvement of their assessment and self-assessment practices?* The project «Il gioco fa scuola» is a training opportunity for the development of design skills, assessment and self-assessment through the use of board games in digital format. The 20-hour online course consisted of 12 modules. At the beginning and at the end of the course the beliefs about the use of the board game as a didactic tool were revealed with a questionnaire. At the end of each module, some closed-ended items made it possible to detect (in self-assessment form) the acquisition of the contents of the module. At the end of the course, the realization of a project work and the so-called «Palette of skills» have been requested, a tool for self-assessment and self-regulation of each one's own teaching, in order to assess and provide feedback to students regarding skills acquired during the course. The contribution will present the results of a first research carried out on project works, on the skills self-assessment tool and on questionnaires completed by 69 Italian teachers of different school levels, as well as the presentation of the project and its assessment system.

1. Framework

Challenges of supporting teachers' professionalism through online tools are changed in last years, not only in order to expand their professional, pedagogical/didactic, and technological knowledge (Mishra, Koehler, 2008), but also to meet the educational emergencies emerged from the global pandemic situation. In this framework we present only some assumptions about use of boardgame in educational context and functions of assessment that we have to consider to better understand data analysis.

Boardgames, ludic and play-shaped approach. Huizinga (1938) defines the game as a necessity for the individual survival of the species: through the game, the child appropriates the culture of belonging. This concept is resumed by Aldo Visalberghi (1966; 1988) with reference to the actuality of the game in the contemporary context, which necessarily requires use by teachers and trainers of nature activity in the design of their educational actions (Dipace, Limone, 2019). The use of table games allows to work a lot on the development of the playful mind, starting from parallel work on the simulative capacity that develops from childhood

with the symbolic game (Anolli, Mantovani, 2011): it is sufficient to recall the many role-play games (Ligabue, 2020; Longo, 2020), where players are called to play a character and immerse themselves in a new, sometimes fantastic world, which requires them to apply new skills.

Visalberghi in *Esperienza e valutazione* (1958) exposed the concepts of *playful* and *play-shaped* and describes with practical examples the distinction between the two terms: we discover the characteristics of the playful activity, that is challenging, continuous, progressive and that has the end of the activity in the game. Instead, play-shaped activity is characterized by the lack of the fourth characteristic of playful, as the end of the game does not correspond to the purpose of the activity, but follows a purpose given by others and that it is outside the game itself. Didactic games are an example of play-shaped activity (Staccioli, 2008), but also training tools used in the context of adult training: the aim of these activities does not run out with playing, but pursues previously defined objectives, then becoming a sort of exercise or training, albeit necessarily limited and incomplete, for activities that are more genuinely and fully human (Visalberghi, 1988) that allow an inadvertent passage by the teacher / trainer / educator to the one who learns. In «work» activity, the end has a more complex function: not only it is indispensable as a procedural means to organize the activities present to achieve it, but it is also a material mean for other activities.

In summary, it is possible to say that games belong to every human being and prepare to live: through the game and exploratory-playful activities the subject knows and learns, giving the game a strong power over man. However, there is a substantial difference: the playing dimension reaches its purpose in carrying out the playful action itself. The effect of the game content ends with the game itself: fun, knowledge, growth, consolidation of relationships. In this way, the game that knows how to continue its sense in something else, it is to understand that the game attaches to a didactic or educational moment, it involves with all another energy because linked to a pleasant experience, as an active protagonist, in a protected context. «Play-shaped» does not necessarily mean *making a game* every time, but proposing activities that actually have a playful dimension. The play-shaped leans on a playful situation: the fun and motivation generated will allow subjects to more effective learning. For this, we need to constantly strengthen play at any age.

Assumptions about assessment. About ludic and playful assessment, we have said that it is based on two functions of assessment: assessment (of learning) *for* learning and assessment *as* learning. Assessment (of learning) *for* learning is a «collection and interpretation of evaluative information whose intentional use allows teachers and students to act individually or interactively to make decisions that have a positive impact on teaching and learning» (Laveault, Allal, 2016, 7). Instead, assessment *as* learning emphasizes using assessment as a process of developing and supporting metacognition for students. Assessment as learning focuses on the role of the student as the critical connector between assessment

and learning. Students, as active, engaged, and critical assessors, make sense of information, relate it to prior knowledge, and use it for new learning. This is the regulatory process in metacognition. It occurs when students personally monitor what they are learning and use the feedback from this monitoring to make adjustments, adaptation, and even major changes in what they understand (Earl, 2007). But they are also the procedures and assessment practices based on feedback to reinforce the learning experience with the respect of the criteria (Torrance, 2007). Feedback is not only information about the gap between the actual level and the reference level of a system parameter which is used to alter the gap in some way (Ramaprasad, 1983; Sadler, 1989), but inner generative process, through which students build knowledge about the activities they are carrying out and come to understand the objects of study through their own evaluative acts» (Nicol, 2018).

A ludic and playful assessment by means of board games supports learning, but also the process of developing skills and expresses it through its being a critical, creative and curative. These aspects refer to the structure of thought also adopted by Lipman (2005), in the context of the use of philosophy with children. Applied to the role of the boardgame in teaching and assessment, it allows us to conceive the «tool-game» as an element for improving one's critical, creative and caring skills.

This method, however, requires constant reference to a particular type of assessment, which corresponds to assessment in support of learning (Earl, 2013; Giovannini, Boni, 2010; Weeden et al., 2010), enriched by the attention to the use of feedback, as previously anticipated (Nicol, 2018; Grion et al., 2017). Otherwise, the process would correspond to a modification of the assessment tools, but with purposes that risk flowing into the collection of data in response to reporting needs, rather than improvement.

2. Research questions

Aim of this paper is to explore the didactic and assessment system adopted within the online project «Il gioco fa scuola» in order to detect aspects and elements useful for a reflection on the possibility of improving the professionalism of teachers through a online-course on board games.

Main questions – to oriented research – are: a) *how much are teachers aware of the impact on their teaching and professionalism by a course on the use of board games used in online mode?* b) *how can we consider it as a possible improvement of their assessment and self-assessment practices?*

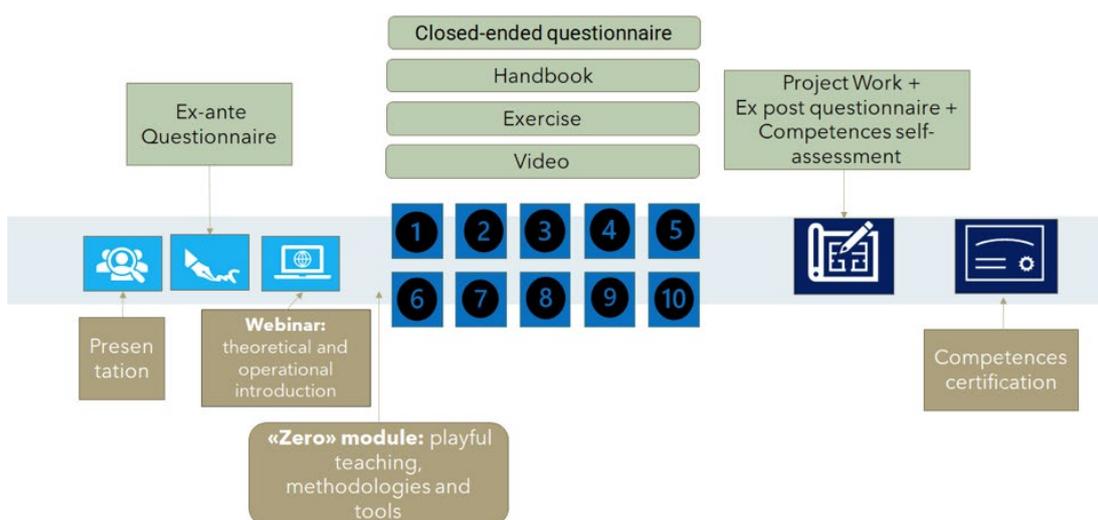
In this first phase of the project, we could deliver 3 courses: 1) «*Didattica attiva*», for teachers of primary schools; 2) «*Competenze relazionali*», for middle schools; 3) «*Cittadinanza attiva*», for teachers of secondary schools. The 20-hours asynchronous course consisted of 10

modules, with the general objective to improve teachers' professionalism with use of the boardgame² as a didactic tool.

Specific objectives of the project are: a) improving teachers' use of an innovative didactic system; b) promoting a constructivist, introspective and holistic didactic approach; c) promoting an democratic and inclusive teaching; d) improving teachers' use of experiential learning; e) promoting learning through the use of materials of different nature; f) proposing a teaching model integrated with the assessment model, allowing the identification of a learning support option in the moments of assessment and self-assessment.

In Fig. 1, planning of didactic program is presented³.

FIG. 1. Plan of didactic program of courses «Il gioco fa scuola»

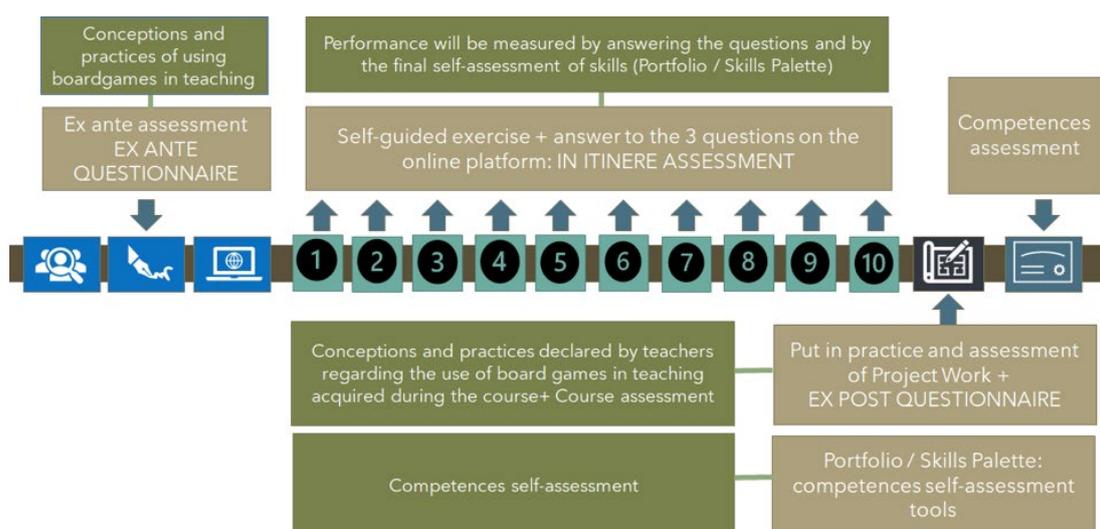


In Fig. 2 we propose the structure of the assessment plan, based on: a) an *assessment as learning* model; b) promotion of skills self-assessment, with the *Palette of competences*; c) propose of self-assessment multiple choice questions; d) promotion of innovative assessment system; e) three modules that are explicitly dedicated to the assessment phase (the *Palette of competences*, the Project Work and the final assessment); f) opportunity to obtain feedback from the trainers and the managers of the platform; g) initial and final questionnaire of the course.

² We can call «boardgame» a play with presence of competitive or cooperative elements, that must be playable on a table or – in the absence of a table – in a room and that needs components to be played (boards, meeples, dice, etc.).

³ The didactic and assessment system and the planning and administration of the tools were entirely responsibility of the author of this paper.

FIG. 2. Plan of assessment program of courses «Il gioco fa scuola»



3. Sample and data collection tools

Sample of exploring research is composed of 69 teachers of primary and secondary schools that have participated at «Il gioco fa scuola» project. They have participated in all different parts of training and assessment plan (Fig. 1 and 2), but for this research paper we can consider these tools: a) initial and final questionnaires (sample = 130 teachers); b) project works (69 teachers); c) «*Palette of competences*» (69 teachers)⁴.

In *project work*, they have to prepare a structured project idea about using of one or more boardgames in their educational context; to do it, they had to propose their project idea analysing their school context with a SWOT analysis and with a description of competences that they wanted to develop and assess. After the definition of target group and their description, they could propose general and specific objectives, resources (time, spaces, people involved) and actions to do. At the end, they proposed the assessment plan of their project (who, what and when to assess).

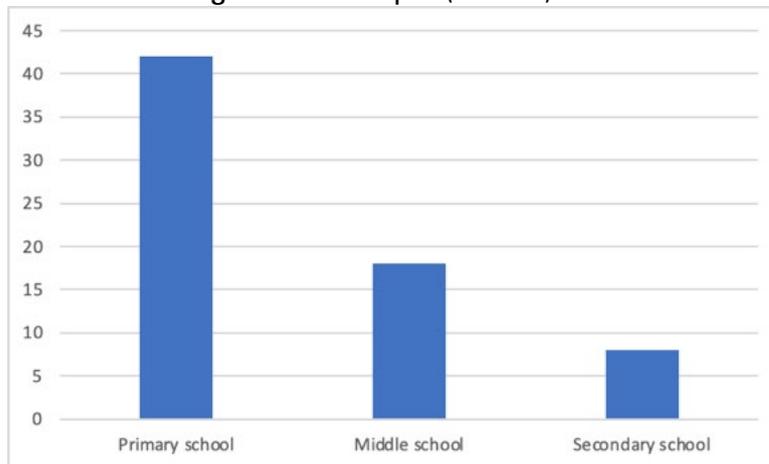
Palette of competences is a kind of digital portfolio to promote teachers' self-assessment competences. Following the artistic metaphor, teachers had to choose three exercises by modules, describe their strengths («hot colours») and their weakness («cold colours») and process of their ludic and didactic learning. They had also to describe what and how they could improve their competences, to improve their self-assessment and learning process.

⁴ The differences between the two samples are due to the fact that enrolment in the course took place after having participated in the introductory webinar (and therefore also answered an initial questionnaire).

Characteristics of sample

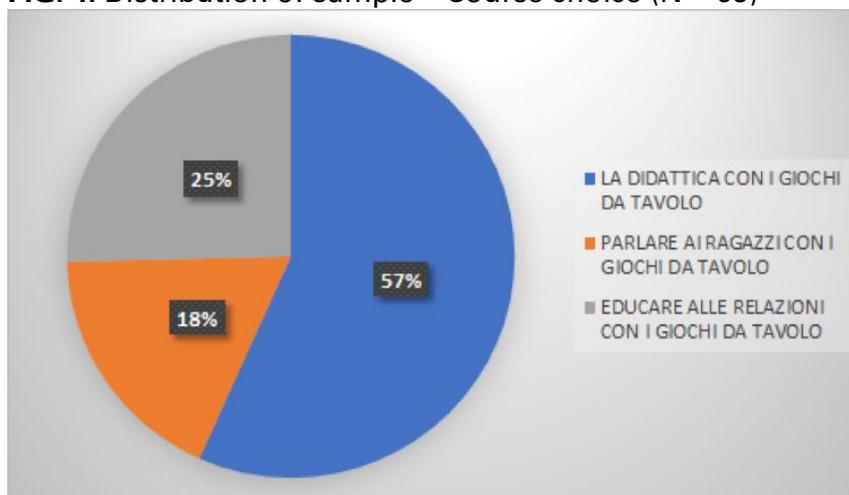
Sample of project work and *Palette of competences* was composed of 69 teachers (90% female and 10% male) of primary and secondary school (Fig. 3). Average age of teachers was 47.48 years and their average years of teaching were 19.48 years.

FIG. 3. School grade of sample (N = 69)



«Il gioco fa scuola» is a project that is promoting by Docenti e Formazione company, in collaboration with Asmodee Italia company and «A centro tavola» group. It is composed by three courses: a) *Didattica divertente – La didattica con i giochi da tavolo* (for primary school); b) *Cittadinanza attiva – Parlare ai ragazzi con i giochi da tavolo* (for secondary school); c) *Competenze relazionali – Educare alle relazioni con i giochi da tavolo* (Fig. 4). Quantitative and qualitative analysis were realized using R (R Core Team, 2020) and NVivo software.

FIG. 4. Distribution of sample – Course choice (N = 69)



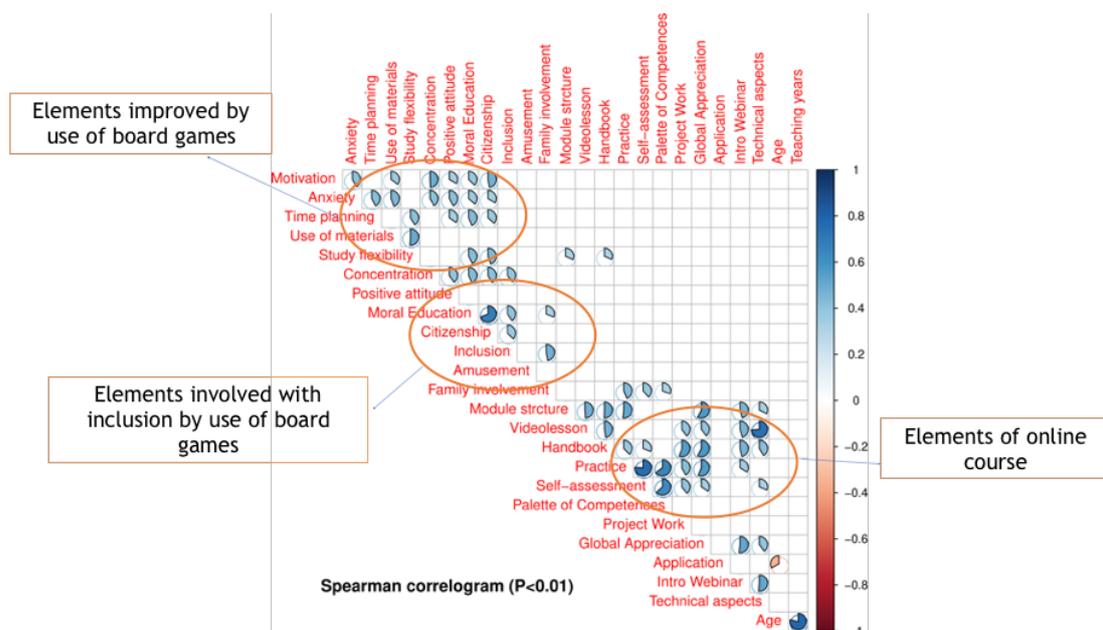
4. Main results

The use of boardgames is perceived by teachers as a really didactic moment, during their lessons and not as a project moment. In Fig. 5, Spearman correlogram ($p < 0.01$) synthetize some interesting element about use of boardgames during lessons.

Each pie chart represents the value of a significant Spearman's rho; where the pie chart is not shown, the correlation is not significant. A blue pie shows a positive Spearman's rho, increasing clockwise from 0 to 1; a red pie shows a negative Spearman's rho, increasing counterclockwise from 0 to 1. Data are collected from 130 teachers that were asked to compile the introductory questionnaire of courses. We have underlined three main areas, representing elements about:

1. improving by using boardgames, like motivation and concentration development, anxiety management, time planning;
2. involvement with inclusion by use of boardgames, like family development;
3. online course, that are our primary interest of our paper and here discussed. About online competences and digital practices, we can observe a global appreciation. We can also observe from data about online mode that tools as video lessons, *Palette of competences* and self-assessment, that are characterized by particular practical and technical elements, have a good positive correlation among them.

FIG. 5. Spearman correlation (N = 130)



In Fig. 6 it is possible to deduce that teachers use assessment during the process (*in itinere* assessment) or at the end of it; it is mainly realized by teachers and – in second place – by pupils (Fig. 7), and observation (35

teachers), feedback (21) and self-assessment (8) are the main tools used for assessment.

FIG. 6. Timing of assessment (N = 130)

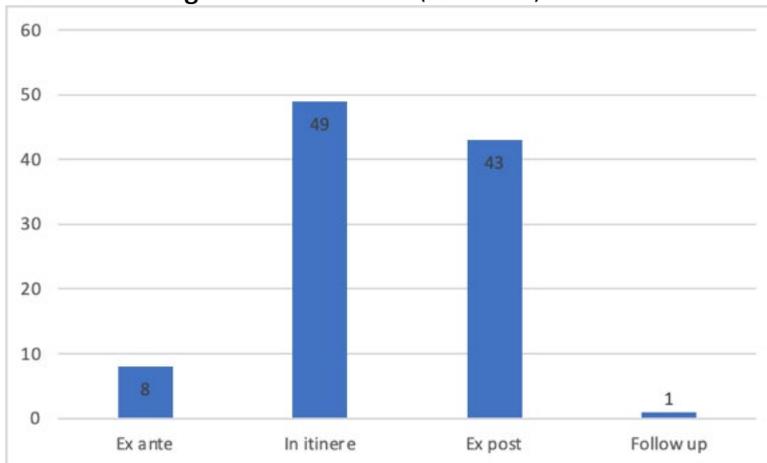
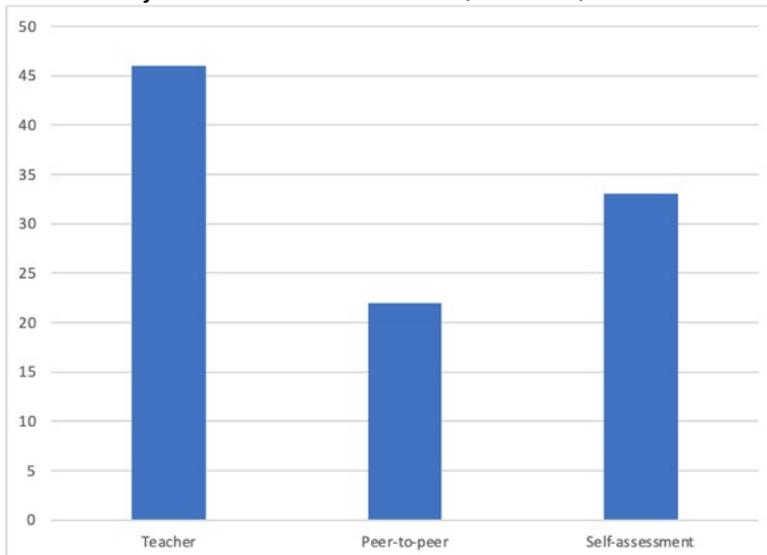


FIG. 7. Object of the assessment (N = 130)



About project work, teachers appreciated in particular its concreteness of work and job scanning. They appreciate in particular its concreteness and job scanning possibility.

Some teacher reflections about project work are that «[...] thinking about the concrete realization of a project in the classroom with the use of a board game was really stimulating.»; «[...] it was a tiring but stimulating job. It forced me to reflect on different aspects of my class, the context in which I work, and my way of planning and assessing»; «[...] it was certainly a useful assessment tool. Being a remote course, it was probably an effective way to distinguish those of us who have followed the course with interest from those who have little attention in carrying out the various activities required.

About *Palette of competences*, teachers said that it was a very hard and demanding work, but also very interesting. They appreciate in particular

the possibility of reflection on their didactic actions: «Self-assessment is a process that is often set aside when taken from daily teaching, but which must necessarily find a moment of do it, with the same purposes for which it is used with pupils. It must be a moment of reflection, to understand where one is arrived, how we have worked to achieve the pre-established objectives (with the analysis of the process) and to be able to intervene effectively to achieve the objectives. identify and improve weak personal skills (my cold colors) by reinforcing and enhancing them thanks to the strong points (my warm colors) in a concrete perspective of permanent learning, trying to bring their own colors not only in our classes but in our daily life so that it can truly be a unique work of art to be admired»; «[...] the self-assessment process is always long and painful», but also essential to personal and professional growth. I don't claim to have done it in the best possible way, but it will certainly be a basis on which to build my path of self-improvement»⁵.

Discussion and conclusions

At the end of this work, a general appreciation for the asynchronous course by teachers is evident; a substantial awareness of the improvement of each one's own professionalism emerges and use of boardgames – both in presence mode and online – is perceived as a useful tool not only for improving students' learning, but also to assess the acquired skills.

Proposed self-assessment process was found to be tiring, but recognized as important for the process of improving each one's own professionalism: receipt of feedback at the end of the course for the improvement of practices was particularly appreciated. Therefore, one of the open questions at the end of this paper is whether it is possible to realize a portfolio like the *Palette of competences* that could be effective, but also smart. Therefore, a first aspect on which to work for the development of self-assessment skills through an online course concerns the structuring of a platform that allows the teacher to collect data for a balance of the skills acquired that is as automated as possible; in this aspect, digital skills can be of help through the possibility of using digital tools of various forms (not only written, but also vocal, video, etc.).

However, the problem also remains highlighted by the correlogram in Fig. 5, where age correlated negatively with the use of technical and technological tools. However, it is not possible to think to overcome this gap exclusively through traditional courses on digital skills, but rather to provide approaches that allow even those less accustomed to the use of these means a gradual and operational approach (for example, through simulations or introducing play-shaped elements even to enhance and improve this aspect).

⁵ Translation from Italian by author.

Screen Vs Table. In this paper, we introduce a new concept of «board/table game»: table is not only the concrete object that we usually intend, but also a digital screen where games elements can be used and moved, putting in action player decision. Using feedback methods activated during the process put in place by teachers with boardgames. In fact, use of boardgame is also possible online; using platform or connection during lessons is possible a distant didactic with boardgame. However, for a full use of boardgames for assessment purposes, a more tenable assessment system is required. A teacher self-assessment process is recognized as useful, but it has to be smart, analysing not only test and observation, but research has to work about a systematic use of feedback into boardgames.

Last open question is about use of boardgames not only as an assessment context, but as a really tool to collect and judge competences: a new research interest is about it, to understand whether boardgame could promote a smarter assessment plan during play and not only as a post-debriefing with participant. This aspect could really introduce an innovative function of assessment, which is not only a more friendly container in which teachers can introduce the tool and contents traditionally used to assess. The long process which we hope should instead resume the presuppositions of a teaching based on competences, which finds the possibility of an authentic assessment, capable of detecting and therefore expressing a judgement on competences, but also according to the nature of the competences themselves.

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Digital Competence Self-Assessment in Future Primary Education Teachers

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ABSTRACT: *The development of teachers' digital competence represents one of the main purposes of the Italian National Plan for Digital Education (L. 107/2015). According to this model, teachers must be able to support students in a digital education process. This is also recommended by the Council of the European Union which in May 2018 updated the Key Competences for Lifelong Learning, defining the digital competence. Before the existing sanitary emergency, that had been impacting many qualities of life and the education processes, was already known the significance of a suitable level of digital pedagogical competence of teachers (Bocconi et al., 2018); the rapid digitalization in the education practices, to contain the spread of COVID-19 Pandemic, has intensified the debate over the digital competence promotion: digital competence is essential for the students' active citizenship (Carretero et al., 2017) and, related to instruction, for effective teaching for meaningful, differential and personalized learning (Koehler, Mishra, 2009; Bonaiuti et al., 2017). The present sanitary emergency clears up the requisite for all teachers to have suitable competence in the use of digital technologies, as ICT has become essential resources as reported by the Guidelines for Integrated Digital Teaching (DDI) (Trincherò, 2020). Some important results have been achieved, but the possibilities for professional improvement in teachers' digital skills are well-defined. For example, research refers that teachers have significant difficulties in the design phase, identifying substantial, circumscribable, and verifiable objectives in relation to the development of digital competence (Ceccacci, 2020). For educators, is important to understand that you are not digitally competent if you do not have a realistic idea of the mechanisms behind running software or a network connection, if you do not know how to critically read and select textual information, if you cannot construct hierarchies and tables or if you do not understand the distinction between real and virtual (Calvani, Menichetti, 2015). In fact, as known, digital competence is not identified exclusively with the techniques and/or technological practices (cutting, pasting, uploading videos, etc.) of the so-called digital natives (Prensky, 2001). The training of teachers in didactic innovation, especially the ability to convert the use of technology into a pedagogical and didactic sense, is considered a priority objective. This research wants to investigate the digital competence in future teachers for Primary Education. Quantitative study research project is still in progress: it involves about 220 Primary Teacher Education students attending the Educational Technologies Laboratory which will be asked to fill in the DigCompEdu Check-In self-assessment questionnaire. Statistical data analysis will present a general indication for further educational activities oriented to the development of digital competence in future primary education teachers.*

KEYWORDS: *Didactic innovation; Digital competence; Rating; Educators; School levels.*

Introduction

The notion of digital competence has its roots in the advent of the computer itself and in the concept of computer literacy that has accompanied the introduction of new technologies in school and work since the 1980s (Calvani, Menichetti, 2014). As technologies acquired new connotations and cognitive and social implications, reflection also became diversified. Alongside technological-functional approaches anchored to computer-based knowledge (Bruce, Peyton, 1999; Davies et al., 2002; Swan et al., 2002), others have emerged that have put information at the center based on the possibilities of access, elaboration, transfer, conservation, in the wake of economic and referential orientations (ALA, 1989; ACRL, 2000), or the ability to understand the principles and strategies necessary to develop technological solutions and social and ethical effects resulting from it. Over the years, a progressive shift of emphasis has been established from a conception based on pure technical knowledge, towards an approach integrated with other dimensions such as the critical-cognitive one (e. g. knowing how to deal with information and data) and that of civic responsibility. and social (e.g. knowing how to respect others and protect one's own safety on the net), which found an authoritative synthesis in the European Recommendation 962 of 2006, relating to key competences for lifelong learning (EU, 2006). In the 2006 European Recommendation, digital competence is defined as knowing how to use information society technologies for work, leisure and communication with familiarity and a critical spirit, and the importance of technologies in support of critical thinking is emphasized. of creativity and innovation. Digital competence is counted among those skills that everyone needs for personal fulfillment and development, active citizenship, social inclusion and employment (EU, 2006).

The 2006 Recommendation was enriched and amended in May 2018. In the latter, digital competence presupposes an interest in digital technologies and their use with familiarity and a critical and responsible spirit to learn, work and participate in society. It includes computer and digital literacy, communication and collaboration, media literacy, digital content creation (including programming), security (including being comfortable in the digital world and possessing cybersecurity skills), intellectual property issues, problem solving and critical thinking. People should understand how digital technologies can help communication, creativity and innovation, while being aware of what this entails in terms of opportunities, limits, effects and risks. They should understand the general principles, mechanisms and logic underlying evolving digital

technologies, as well as knowing the basic functioning and use of different devices, software and networks. People should take a critical approach towards the validity, reliability and impact of information and data made available with digital tools and be aware of the ethical and legal principles involved with the use of digital technologies. People should be able to use digital technologies as an aid to active citizenship and social inclusion, collaboration with others and creativity in achieving personal, social or commercial goals. Skills include the ability to use, access, filter, evaluate, create, program and share digital content. People should be able to manage and protect information, content, data and digital identities, as well as recognize software, devices, artificial intelligence or robots and interact effectively with them. Interacting with technologies and digital content presupposes a reflective and critical attitude, but also based on curiosity, open and interested in the future of their evolution. It also imposes an ethical, safe and responsible approach to the use of these tools (EU, 2018).

In recent years, further research and projects have perfected this reference, also trying to favor its didactic implementations. There is now a fair amount of convergence among researchers in the belief in the concept of digital literacy other literacy related to media and digital technologies will converge (Midoro, 2007). To understand the semantic richness to which the concept of digital competence refers, it is useful to dwell on the literacy related to it.

This competence, in fact, must be placed within a network of related terms and concepts, such as Information Technology Literacy, Media Literacy, Information Literacy, Visual Literacy, Network Literacy etc.: some of these terms are typical of a specific media (e.g. IT literacy), others are independent of the technology used (e.g. visual literacy or information literacy) and yet dimensions such as Information Literacy appear relevant today to define this construct (Gapski, 2008). In general, education systems have placed particular emphasis on computer literacy since the 1960s. More specifically, according to Martin (2005), the concept of computer literacy has gone through three phases that have gradually followed one another:

- mastery (from the 1960s to the mid-1980s), the computer was predominantly perceived as an arcane and powerful object, and the emphasis was on acquiring knowledge and skills to master, particularly with respect to functioning computer and programming;
- application (from the mid-80s to the late 90s), is marked by the changes that have characterized the evolution of technological interfaces. At the end of the 1980s, graphically more intuitive interfaces and simpler applications began to develop and spread; the computer is thus perceived as a daily work tool that can be used for a wide range of activities, from education to work, from entertainment to personal interests;

- reflective (from the late 90s to today), the need for a more holistic and reflective notion of computer literacy emerges and a more articulated vision of the literacy necessary for an appropriate use of technologies is emerging.

Another relevant theoretical contribution in the educational field, is derived from the DigComp (Digital Competence; identification and European-wide validation of its key components for all levels of learners) project, divided into three main phases: the definition of a digital competence model (Ala-Mutka, 2011), the selection of the most significant digital competence models at European level to draw a summary operational definition (Ferrari, 2012), a consultation of experts to answer the question of who can be defined digitally competent. The project highlights the need to identify a stable knowledge framework (ability to use digital tools and applications, purified from superficial technicalities) that must enter into a relationship with strategic skills (information management, collaboration, communication and sharing, creation of content and knowledge, ethics and responsibility, evaluation and problem solving). Digital competence consists in the activation of these two-way relationships between technical knowledge and strategic skills (Calvani, Menichetti, 2013; Olimpo, 2013).

Behind the impulse of the European Recommendation (EU, 2006; EU, 2018) the Digital Competence Assessment (DCA) model was also born, which accompanies the theoretical elaboration with practical evaluation tools that can be used at different school levels and differentiated by complexity (Calvani, Menichetti, 2013). Digital competence, according to the definition adopted within the DCA project, consists in knowing how to explore and deal with new technological situations in a flexible way, in knowing how to analyze, select and critically evaluate data and information, in knowing how to exploit the potential of technologies for representation and problem solving and for the shared and collaborative construction of knowledge, maintaining awareness of personal responsibility, the boundary between oneself and others and respect for mutual rights / duties (Calvani et al., 2009).

The model that derives from the definition is characterized by an integration between knowledge of a technological nature with others of an ethical-relational nature and with cognitive abilities, partly transversal to other basic literacy. This model includes some pedagogical suggestions that have emerged as technologies have been presented in the school over the last thirty years: Exploration, Simulation, Inquiry, Collaboration, Participation. They can become as many paths according to which to evaluate digital competence (Calvani et al., 2009).

The DCA model was also taken into consideration by the DigComp project (2010-2012) and it is possible to identify significant points of convergence with the synthesis of the other frameworks proposed at European level, in particular as regards the connotation that is not purely technical, but strictly relationship with critical-cognitive and ethical-social dimensions (Ala-Mutka, 2011; Ferrari, 2012). Digital competence

represents a significant challenge for the educational systems of the new century, emerging as a necessary condition for living in the knowledge society. This involves a redefinition of the very functions of schools and educational institutions and requires a reflection on the conceptual meaning of this competence and on the space that digital culture can / must find in the curricula. It is therefore important to understand how the concept of digital competence cannot be reduced to a single component, but rather a flexible and integrated approach is required. With this in mind, in this paper, we will explore the importance that digital competence assumes for teachers' pedagogical purposes, in particular, emphasizing the perception it acquires for future primary school teachers.

1. A DigCompEdu survey with future primary school teachers

The health emergency and the suspension of face-to-face teaching activities have given new emphasis to teacher training courses on ICT and digital skills. Before the lockdown, their strategic importance was already well known as a lever to train the skills needed in knowledge society, and their correlation with the economic and social development processes of a country (UNESCO, 2010). It was also known how an adequate level of «digital pedagogical competence» of teachers (Bocconi et al., 2018) was indispensable for the promotion of digital citizenship in students (Carretero et al., 2017) and for an introduction of technologies in effective teaching for learning (Koehler, Mishra, 2009; Bonaiuti et al., 2017). The emergency context made it clear how urgent it was for all teachers, even the most skeptical and reluctant, to have adequate competence in the use of digital technologies. Training needs have exploded. In the distance teaching phase (Trincherò, 2020), ICT has become an indispensable resource for e-learning with which teachers have been and still are obliged to measure themselves, in light of the ministerial indications of the Guidelines for digital education integrated (DDI) (5) for the current as. Starting from this theoretical food for thought, the present contribution aimed to detect the perception that future primary school teachers have with respect to their digital competence. Data from Education and Training Monitor 2020 show that Schools in Italy are digitally equipped in line with other European countries, but, for example, the proportion of teachers who feel well or very well prepared in using ICT for teaching is lower than the average (35.6% v 37.5%). An ageing teaching workforce with insufficient ICT skills contributes to the slow progress of digital innovation in teaching. Specifically, in 2018, 68% of teachers reported having participated in in-service training in ICT for teaching in that year and only 16.6% felt a strong need for ICT training. However, while the share of teachers who frequently or always let students use ICT for projects and class work grew from 30% in 2013 to 46.6% in 2018, only 35% of teachers reported using ICT when teaching in

most or every lesson in 2018, compared to 72% in Finland. In addition, teachers tend to use ICT mainly to consult information sources (33%) and content linked to textbooks (34%), in line with a frontal teaching approach, while only a minority uses interactive learning resources, practice programmes or learning games. The lack of familiarity with more innovative digital technologies for teaching may reflect the age composition of the teaching workforce, and the need to strengthen in-service training in ICT for older teachers. Starting from these insights, this work aims at investigating the perception that future Primary School teachers have regarding their digital competence. The training of teachers in didactic innovation, especially the ability to convert the use of technology into a pedagogical and didactic sense, is considered a priority objective.

The target population of our research is composed by 223 students attending the Primary Education Science degree course, and specifically attending the Educational Technology Laboratory, planned for the fourth year of the academic program. The accidental sampling technique was used to select the group of participants: a total of 153 students, divided into 3 groups. Data were collected through voluntary response sample from 79 of 153 Primary Teacher Education students that were attending the Educational Technology Laboratory. This research wants to investigate the digital competence in future teachers for Primary Education, for further educational activities in the training path, oriented to the development of the digital competence in future teachers. The survey tool is DigCompEdu Check-In self-assessment questionnaire, developed and validated by the European Commission. The DigCompEdu Check-In tool is based on the European Framework of Reference on the Digital Competences of Teachers and Trainers (DigCompEdu). The DigCompEdu framework describes 22 key competences divided into six thematic areas and organized into six mastery levels (A1, A2, B1, B2, C1, C2). The objective of the Reference Framework, aimed at teachers of all levels of education (including kindergarten, vocational and higher education, as well as adult education), is to support and encourage teachers in the use of effective use of digital tools to improve and innovate teaching and learning processes.

The DigCompEdu Check-In self-reflection questionnaire is composed of 22 questions and provides detailed feedback and useful suggestions to identify the main stages in the professional development path of the teacher / trainer towards innovative teaching. For each of the questions, there are five answer options to choose from. The Italian version of the DigCompEdu Check-In tool is edited by the Institute for Didactic Technologies of the National Research Council (CNR-ITD) which coordinates the DigCompEduSAT experimentation in Italy (for any information contact the CNR-ITD coordinator, Stefania Bocconi), Dr. Maria Ranieri (UNIFI) and Dr. Sandra Troia (Puglia Region training center) also contributed to this version.

It is divided into 6 main areas:

1. Professional Engagement;
2. Digital Resources;
3. Teaching and Learning;
4. Assessment;
5. Empowering Learners;
6. Facilitating Learners' Digital Competence.

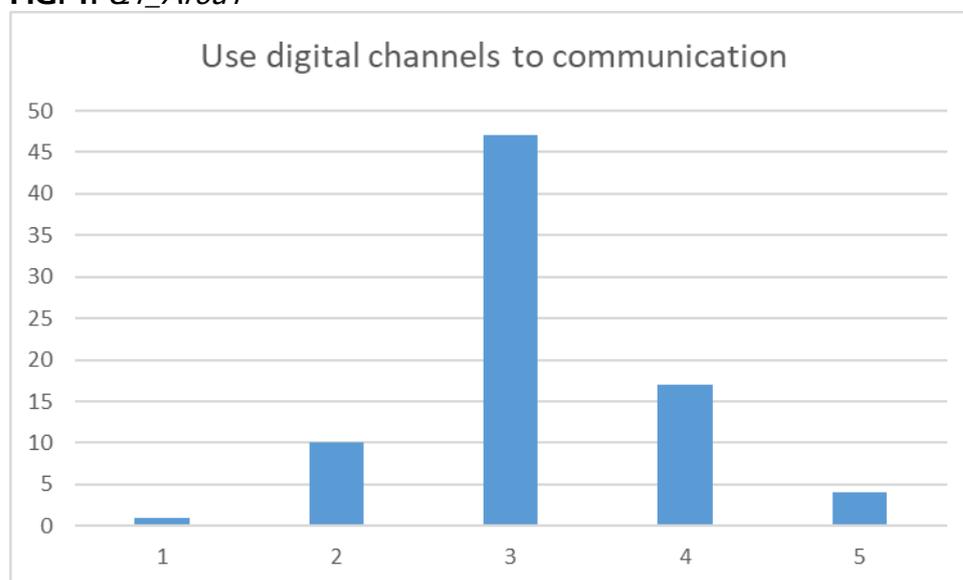
Here we present only a brief part of the data analysis, linked to the frequency of answers provided by students for each area. For reasons of time, but in order to provide an idea of the questionnaire at the same time, an item was selected for each area. The choice of items is linked to the representativeness and correspondence of the objectives of the area to which they belong.

Question 1 was chosen as representative of Area 1, Professional Engagement: «Q1. I systematically use different digital channels to enhance communication with (student)s, parents and colleagues e.g., emails, blogs, the (educational organisation)'s website, Apps:

1. I rarely use digital communication channels
2. I use basic digital communication channels, e.g. e-mail
3. I combine different communication channels, e.g. e-mail and blog or the (educational organisation)'s website
4. I systematically select, adjust and combine different digital solutions to communicate effectively
5. I reflect on, discuss and proactively develop my communication strategies».

As you can see from the histogram relating to question 1 of area 1 (FIG. 1), the future Primary Education teachers declare that they use technology in order to improve communication with stakeholders (students or/and parents), however, there are few who make a proactive use of ICT for reflection and discussion.

FIG. 1. *Q1_Area1*

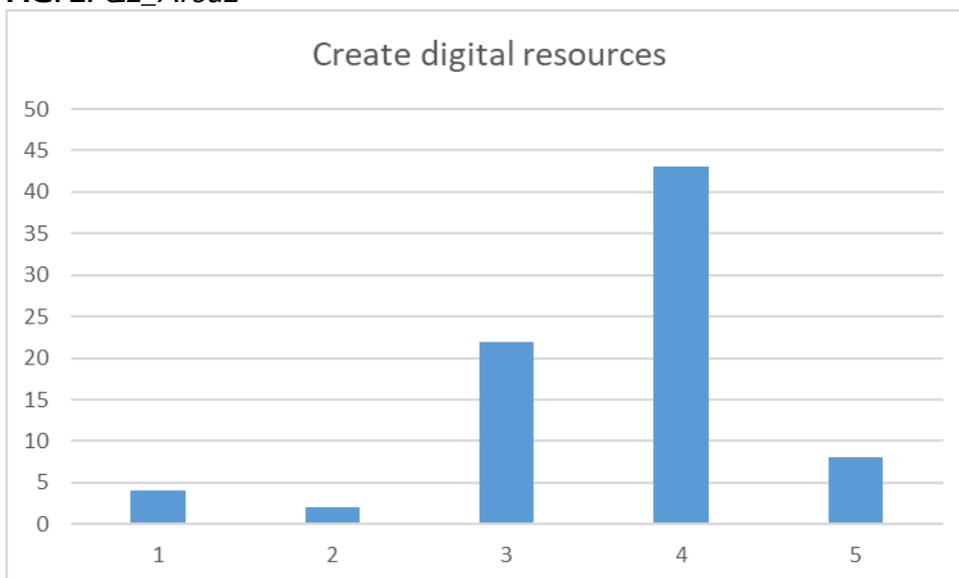


Question 2 was chosen as representative of Area 2, Digital Resources: «Q2. I create my own digital resources and modify existing ones to adapt them to my needs

1. I do not create my own digital resources
2. I do create worksheets/lecture notes or reading lists with a computer, but then I print them
3. I create digital presentations, but not much more
4. I create different types of resources
5. I set up and adapt complex, interactive resources».

Regarding the creation and modification of digital resources, the answers given give positive feedback, as the highest values focus on the answer «I create different types of digital resources», followed by «I create digital presentations, but not much else», lower values are found in the adaptation of more complex interactive resources and in the total lack of creation (Fig. 2).

FIG. 2. *Q2_Area2*

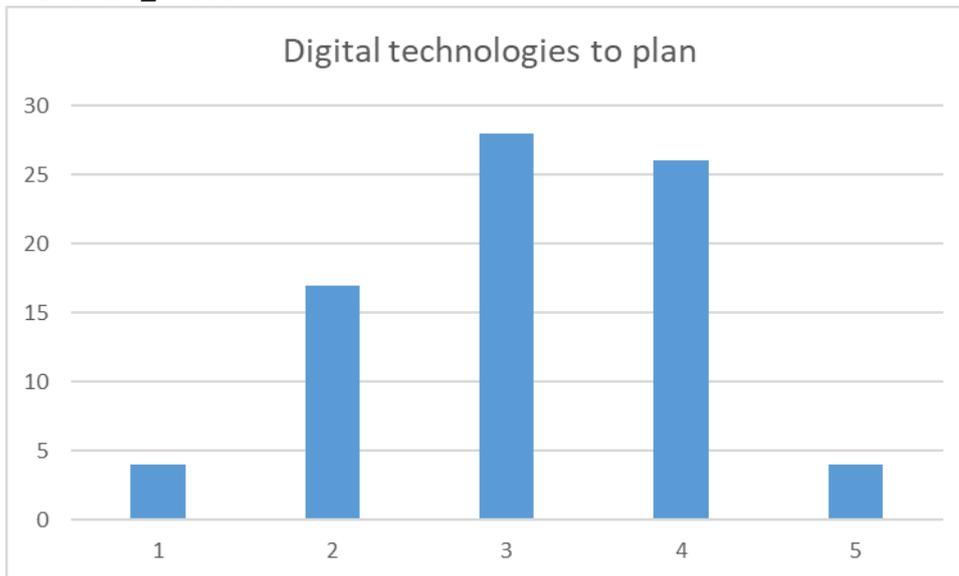


With respect to the use of technologies to allow students to plan, document and monitor their own learning on their own, prospective teachers do not provide an absolute preference. In fact, 35.5% respond that sometimes they use self-assessment quizzes, 32.9% use a variety of tools and 21.52% do not use technologies for this. Lower percentages are found at the first and last level, ie the total absence and total integration of the use of digital tools in a systematic way (FIG. 3).

Question 4 was chosen as representative of Area 3, Teaching and Learning: «Q4. I use digital technologies to allow (students) to plan, document and monitor their learning themselves, e.g. quizzes for self-assessment, ePortfolios for documentation and showcasing, online diaries/blogs for reflection, etc.

1. Not possible in my work environment
2. My (students) do reflect on their learning, but not with digital technologies
3. Sometimes I use, for example, quizzes for self-assessment
4. I use a variety of digital tools to allow (students) to plan, document or reflect on their learning
5. I systematically integrate different digital tools to allow (students) to plan, monitor and reflect on their progress».

FIG. 3. *Q4_Area3*

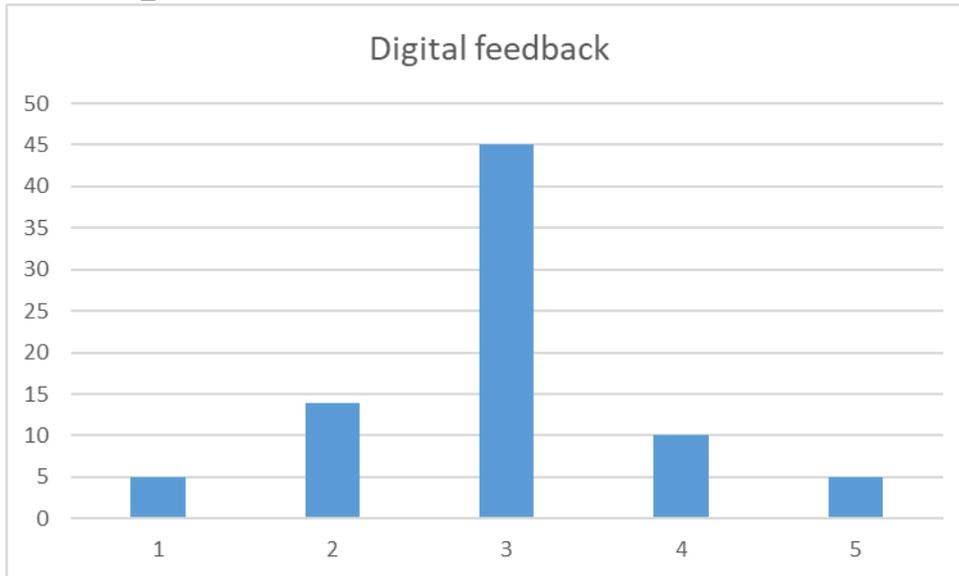


In Area 4, relating to the assessment of learning, the question chosen refers to the use of digital technologies in order to provide feedback to students:

«Q3. I use digital technologies to provide effective feedback

1. Feedback is not necessary in my work environment
2. I do provide feedback to (students), but not in digital format
3. Sometimes I use digital ways of providing feedback, e.g. automatic scores in online quizzes, comments or «likes» in online environments
4. I use a variety of digital ways of providing feedback
5. I systematically use digital approaches to provide feedback».

The highest rate of responses is found in «sometimes», followed by offering feedback, but not in digital form and, subsequently, by the use of different digital media in order to provide feedback (Fig. 4).

FIG. 4. *Q3_Area4*

Question 2 was chosen as representative of Area 5, Empowering Learners:

«Q2. I use digital technologies to offer (students) personalised learning opportunities:

e.g. I give different (student)s different digital tasks to address individual learning needs, preferences and interests

1. In my work environment, all (students) are required to do the same activities, irrespective of their level
2. I provide (students) with recommendations of additional resources
3. I provide optional digital activities for those who are advanced or lagging behind
4. Whenever possible, I use digital technologies to offer differentiated learning opportunities
5. I systematically adapt my teaching to link to (student)s' individual learning needs, preferences and interests».

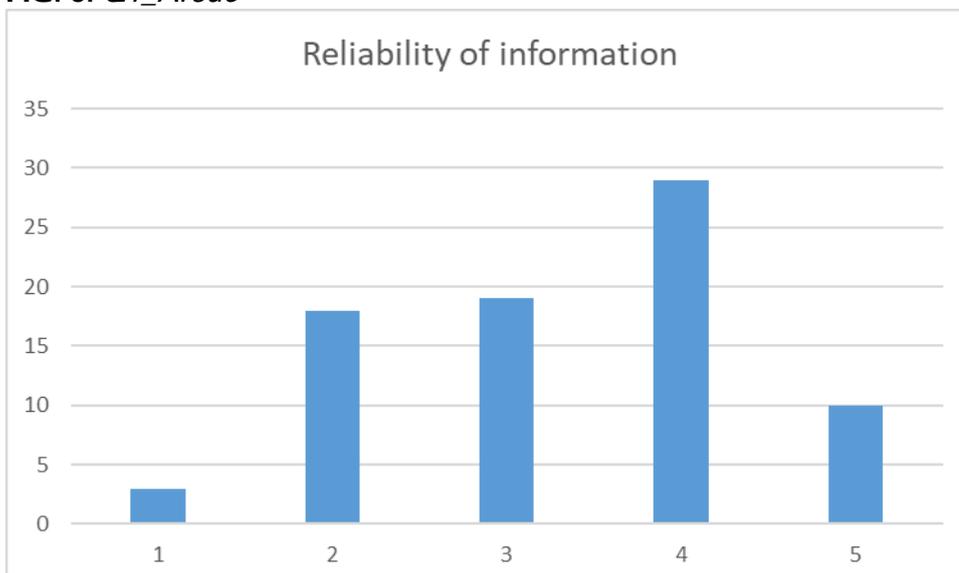
With respect to the use of technologies to be able to provide students with personalized learning opportunities, a positivity emerges in the use of these resources. As can be seen from the graph (FIG. 5), the highest response rates are found in the use of technologies, even in a systematic way. By transforming the values into percentage terms, we have 43% of the sample declaring that they use technologies to personalize learning and 21.6% of adapting technologies in a systematic way.

FIG. 5. Q2_Area5

Compared to the question 1 of Area 6, Facilitating Learners' Digital Competence, «I teach (students) how to assess the reliability of information and to identify misinformation and bias:

1. This is not possible in my subject or work environment
2. I occasionally remind them that not all online information is reliable
3. I teach them how to discern reliable and unreliable sources
4. I discuss with (students) how to verify the accuracy of information
5. We comprehensively discuss how information is generated and can be distorted»,

Most of them say they are discussing with students to verify the accuracy of the information, at the same time very high percentages are found. close between those who claim to teach to distinguish information (24%) and those who occasionally remember having this attention (22, 7%) (FIG. 6).

FIG. 6. Q1_Area6

As previously mentioned, the DigCompEdu Check-In tool is based on the European Reference Framework on the Digital Competences of Teachers and Trainers (DigCompEdu), organized in six levels of mastery (A1, A2, B1, B2, C1, C2). In the questionnaire, before starting the compilation of the questions for each area and, at the end, the same question is found: «How do you currently assess your digital competence as teacher? Assign a level of competence from A1 to C2, where A1 is the lowest and C2 the highest level».

Before completing the questionnaire, most prospective students declare a B1 proficiency level (Fig. 7). This data is confirmed, albeit with a very slight decrease, following the compilation. Level A2 increases upon completion, while level B2 drops, as does level A1. Identical values are found in level C1 and C2 (Fig. 8).

FIG. 7. *Digital Competence Pre-tool*

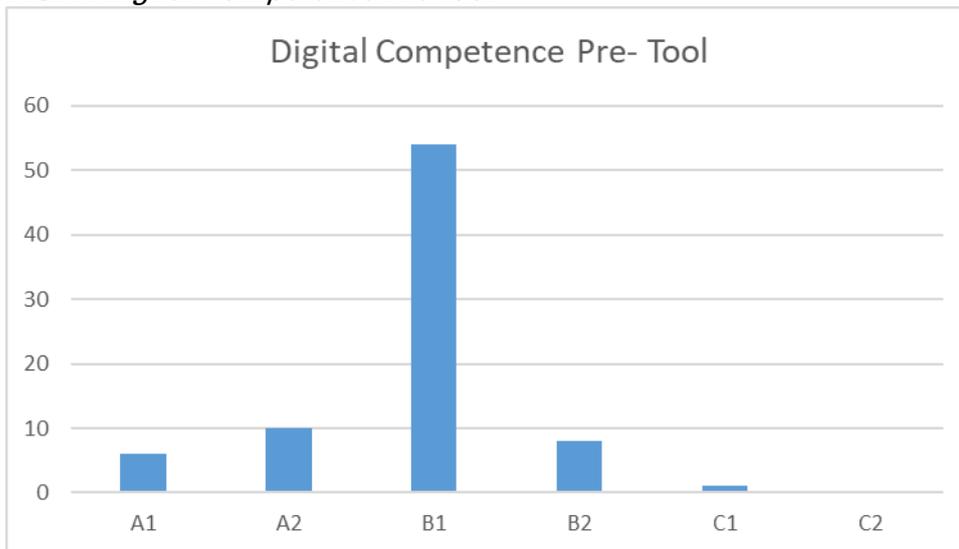
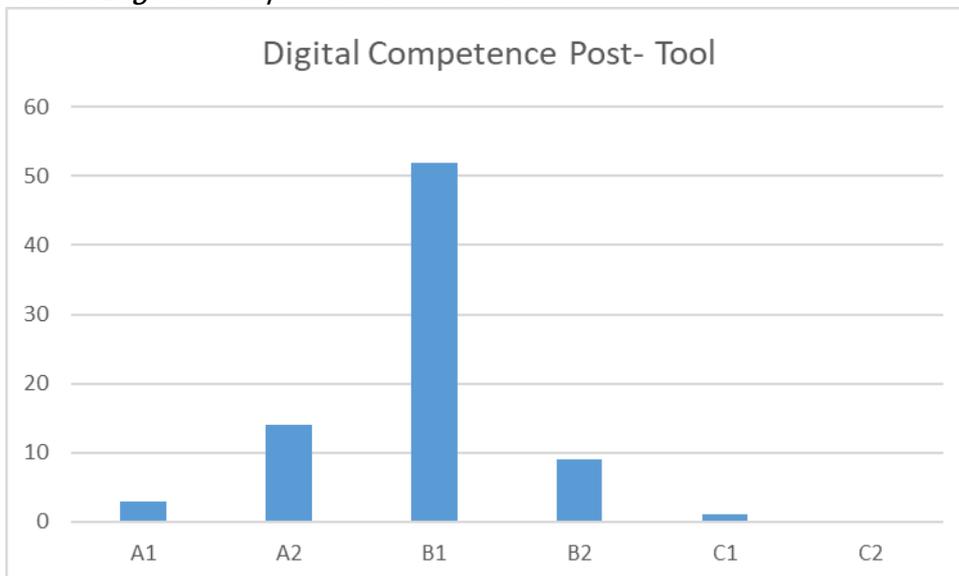


FIG. 8. *Digital Competence Post-tool*



In conclusion, it is possible, in general, to find attention in digital resources at an average level, but not a full use of them in relation to their potential.

From a greater and more complete statistical analysis of the data, we will proceed with the design of educational activities aimed at the development of digital skills in future teachers of primary education.

Conclusion

In light of the theoretical premises, the brief analysis of the data presented by the survey and its in-depth analysis, it is appropriate to question, in our opinion, the design of university teaching for future primary school teachers. Their visibility is precious in order to be able to intervene with targeted training initiatives, to make the various contexts of action that involve, at all levels, educational technologies within the school community even more effective and inclusive. Furthermore, on the basis of what was declared by the professors in the DigComEdu questionnaire, it is appropriate to think in terms of digital pedagogical training, to ensure that an awareness is acquired of the skills, opportunities and possibilities that can be spent in terms of teaching, professional and personal. Training is essential for increasing the quality of teaching and ensuring effective education, as part of a necessary organizational, structural and methodological renewal of the entire school system. Furthermore, the new technologies for teaching are able to offer teachers important working, sharing and cooperation tools. In this complex context that increasingly represents daily reality in all areas of society, the training of teachers on these issues and in this sector is the only way to give quality answers to everyone (students, colleagues and school staff) and effective and useful contributions for students, but also for other teachers and for all school staff. The design of effective forms of training and updating is crucial for the effective realization of the processes of innovation and change in the school, processes that currently appear increasingly necessary given the rapid obsolescence of the knowledge to be taught in many fields and the increasingly widespread presence of new technologies that often involve a change in teaching content and methodologies (Bottino, Chiappini, 1998).

However, it is considered appropriate that this push not only take place in itinere, as a continuous updating of one's teaching profession, but rather that a vertical curriculum oriented to the planning and development of this competence is determined in university training.

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«Emergency Remote Teaching» in Italy and Norway: Empirical Research Findings and Implications for Teacher Training

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ABSTRACT: *As schools closed due to the COVID-19 pandemic, online learning opportunities became crucial for the education of millions of students worldwide. In most countries, the transition from face-to-face teaching to distance learning took place in an emergency situation. This article aims to discuss the results of the empirical research produced in Italy and Norway on «emergency remote teaching» during the pandemic. Starting from the analysis and comparison of data gathered in and about the two countries, considerations will be drawn on the digital competence of teachers and on the areas that most need interventions at the level of teacher training and education policies.*

KEYWORDS: *COVID-19 pandemic, distance learning, «emergency remote teaching», teachers' digital competence, teacher training.*

Introduction

As schools closed due to the COVID-19 pandemic, online learning opportunities became crucial for the education of millions of students worldwide. In most countries, the transition from face-to-face teaching to distance learning took place in an emergency situation. Consequently, the sudden change was not preceded by organizational, technical, nor didactic reflections. Schools, teachers, pupils and their families found themselves facing an entirely new situation.

What has happened, and is still happening, in the face of the COVID-19 crisis has certainly led to inconveniences and criticalities in a sector as essential to society as that of school education. However, the experience, if analyzed with the lens of science and educational research, can provide interesting insights on which to reflect and work, at the policy level, in the near future.

How have teachers managed to deal with the emergency by using their digital competence? We assume, based on the current literature and frameworks, that an educator's digital competence goes far beyond technical skills, embracing professional, pedagogical and technological knowledge. Moreover, the opportunities digital technologies offer can go well beyond temporary solutions during the COVID-19 crisis, if teachers

have specific preparation to integrate face-to-face and distance teaching. Here we will first present how digital competence is included in teacher training programs in Italy and Norway, then the main empirical studies published in the two countries on «emergency remote teaching» during the pandemic. Starting from the analysis and comparison of the research results, considerations will be drawn on the digital competence of teachers and on distinct areas of teacher training and education policies in the near future.

1. Emergency remote teaching

In higher education, scholars have framed the new hybrid version of teaching that has emerged due to campus close-downs as «emergency remote teaching». This includes elements from technology enhanced classroom teaching and online teaching context, but cannot be understood as either of those (Hodges et al., 2020; Barbour et al., 2020). In compulsory education, we find similar trends, even if online offerings are less usual. For the school sector, teachers' previous experiences with the use of digital resources and technology enhanced classroom teaching is thus important for schools' capacity to transform into «emergency remote teaching». As observed in the research literature, teaching online must be handled differently than teaching in traditional classrooms.

2. Context description: teacher training and digital competence

In Italy, a university degree in primary school education is a requirement for obtaining teacher qualification at the primary and preprimary levels. Teaching in secondary schools, beside a Master qualification, requires specific competences in anthropology, psychology and pedagogy, as well as in teaching methods and technologies to be acquired through specific university courses. The qualification and the credits are the requirements to access the national open competition that qualifies teachers to the profession.

The general aim of teacher education programs, at all school levels, is the acquisition of subject-related competences as well as of pedagogic, didactic and organizational competences. Teachers at all levels must acquire, among the others, digital competences. The autonomy of schools (Law 59/97) has allowed the experimentation and implementation of good practices based on the use of educational technologies. Over the years, many Italian schools have benefited from EU funds both to equip themselves with technological devices and for teacher training. In 2008, the Italian Ministry of Education launched the National Plan for Digital Education (PNSD) in order to promote digital innovation in the school system. Since then, it has invested systematically to equip schools throughout the country with interactive

whiteboards and internet connections and to provide assistance and training opportunities for their staff. More recently, the PNSD was strengthened and re-launched as one of the pillars of *La Buona Scuola* school reform (Law 107/2015). The new PNSD promotes a systemic vision of education in the digital age through programs and actions organized into five main areas: tools, skills, content, staff training and supporting measures. As far as staff training is concerned, the PNSD aims to strengthen in-service teacher training for organizational and didactic innovation.

As in Italy, also in Norway university degrees are required for teaching in compulsory education. Teacher education programmes are provided by higher education institutions (HEIs) and four main teacher education programmes are offered (NOKUT, 2020). The HEIs follow national guidelines for teacher education. Digital competence addresses teaching practice, focussing on the teacher students' capacity to develop pupils' digital competence. Teacher education programmes are thus expected to contribute to digital responsibility and help counteract a digital divide in schools. Professional digital competence (PDC) is developed across several areas of knowledge and learning areas and includes both general digital competence as well as subject specific PDC and professional knowledge and skills (Kelendric et al., 2017). Teacher education must therefore facilitate the student through various learning activities on campus and in practice, so that they can develop their PDC, but also gain relevant experience in the educational use of ICT in their subjects. Student teachers also need to be able to familiarise themselves with ethical and legal issues such as copyright and privacy issues connected to GDPR (Kelendric et al., 2017). A new national curriculum for compulsory education was implemented in 2020, where digital technologies play a crucial role as a knowledge domain (for example how technology impacts society), and competence. Teacher education programmes have thus started to embed these new dimensions into their offerings.

3. Review of empirical studies about «emergency remote teaching» in Italy and Norway

Literature reviews were conducted in May 2021. The Italian search was done through Google Scholar by setting the following keywords: Italy, pandemic, school, teachers, and the correspondents in Italian. The selection was limited to empirical research conducted with quantitative, qualitative or mixed methods that had been already peer reviewed and published. Studies were included whose results directly concern teachers' digital competence or, at least, allow useful considerations to be drawn on this aspect. Based on these criteria, we found thirteen studies (Tab. 1).

The Norwegian literature review was conducted in a similar manner as the Italian, but with some additional search approaches. We used keywords such as Norway, pandemic, school, teachers, COVID-19, and with a translation of the keywords into Norwegian language. The results included five papers, either Norway as a single case study or as a multi case study with other countries. To supplement, we looked to research reports published by independent research institutes and found five. Findings were either quantitative or qualitative studies, or mixed-method studies. We also identified one Master thesis with a qualitative approach.

When this article is published, the number of available studies for both Italy and Norway will likely be much higher. However, those analyzed in this paper are sufficient to identify some crucial issues with reference to the teacher's digital competence.

TAB. 1. *Studies included in the literature review*

ITALY					
	<i>Title of the research. National/international/local. Reference</i>	<i>Author(s)</i>	<i>Theme</i>	<i>Sample</i>	<i>Methods and data collecting instruments.</i>
1	<i>Didattica a distanza con le famiglie: l'esperienza di insegnanti e genitori, In Italia e in Cina, durante l'emergenza sanitaria 2020.</i> International. Ardizzoni et al., (2021).	University of Bologna.	How teachers in Italy and China have implemented emergency remote teaching.	Italy: 2,000 pre-school and primary school teachers.	<i>Mixed methods.</i> Questionnaire analysis of social networks, focus groups, interviews with parents.
2	<i>La DaD in emergenza: vissuti e valutazioni degli insegnanti italiani.</i> National. SIRD (2021).	SIRD, Italian Society for Educational Research.	Emergency remote teaching during the pandemic from the viewpoint of teachers.	16,133 pre-school, primary, middle and high school teachers.	<i>Mixed methods.</i> Questionnaire, focus groups and interviews.

3	<i>La scuola e i suoi esclusi.</i> National. CENSIS (2020).	CENSIS (Centro Studi Investimenti Sociali).	The Italian school system coping with the pandemic, with particular attention to the theme of technology and digitalization.	2,812 primary, middle and high schools headmasters.	<i>Mixed methods.</i> Semi-structured questionnaire.
4	<i>La didattica durante la pandemia: un'istantanea scattata dagli insegnanti a due mesi dal lockdown.</i> National. Giovannella, Passarelli, Persico (2020).	University of Rome Tor Vergata and CNR (Consiglio Nazionale delle Ricerche).	Teachers' perceptions about schools' responsiveness and operating conditions immediately after the first lockdown.	336 primary, middle and high schools teachers.	<i>Mixed methods.</i> Semi-structured questionnaire.
5	<i>Technology and didactic innovation in school at the time of COVID-19: an evaluation of the educational effectiveness in the student perspective.</i> National. Di Palma, Belfiore (2020).	University of Napoli Parthenop e.	Assess the effectiveness of remote emergency teaching as perceived by the students.	1,000 high school students (14-19 y.o.).	<i>Quantitative.</i> Questionnaire.
6	<i>Scuole chiuse, classi aperte Il lavoro di insegnanti e docenti al tempo della didattica a distanza.</i> National. Ferritti (2021).	INAPP - Istituto nazionale per l'analisi delle politiche pubbliche.	Transition from traditional teaching to online teaching from the teachers' perspective.	548 teachers in schools of all levels.	<i>Quantitative.</i> Web survey sent via Facebook, Twitter, LinkedIn, WhatsApp and e-mail.

7	<i>Insegnanti e COVID-19. DAD, benessere psicologico e lavorativo degli insegnanti in tempo di COVID-19.</i> Local. Matteucci (2020).	University of Bologna.	Teachers' psychological/occupational well-being and sense of self-efficacy during the pandemic.	1,110 primary, middle and high schools teachers from the Regions Marche, Sardegna and Emilia Romagna.	<i>Mixed methods.</i> Questionnaire and semi-structured interviews.
8	<i>Narrazione di un percorso di formazione durante il lockdown: la DAD del territorio marchigiano.</i> Local. Ceccacci (2020).	Researcher from the Italian Ministry of University and Research, member of the PNSD.	Teaching during the lockdown and critical areas in the teachers' digital competence.	130 schools and 2,202 pre-school, primary, middle and high school teachers from the Marche Region.	<i>Qualitative.</i> Narrative «reconstruction» of a training project for teachers.
9	<i>Testimonianze sull'esperienza DaD: un'indagine in Umbria e Toscana.</i> Local. Ciurnelli, Izzo (2020).	University of Perugia.	Methods used for remote teaching, evaluation criteria and reflections on positive and negative aspects.	256 respondents among teachers, parents and pupils, mainly from the Regions Umbria and Toscana.	<i>Mixed methods.</i> Semi-structured questionnaire.
10	<i>E-inclusion: online special education in Italy during the COVID-19 pandemic.</i> Local. Parmigiani et al., (2020).	University of Genova.	Factors affecting e-inclusion and strategies used by teachers to arrange online inclusive teaching/learning activities.	785 teachers from the province of Genova.	<i>Qualitative.</i> Questionnaire with open-ended questions.

11	<i>DAD e inclusione. Uno studio di caso durante l'emergenza sanitaria da COVID-19.</i> Local. Filosa, Parente (2020).	INAPP.	Analysis of a good practice implemented in a special school for the deaf during the pandemic.	Six participants: headmaster, vice president of parents committee, pre-school coordinator, primary school coordinator, communication assistant (deaf), interpreter (deaf).	<i>Qualitative.</i> Case study based on in-depth interviews to stakeholders.
12	<i>Vo.Ca.Le. (Voice Care Learning).</i> Local. Santagati, Barabanti (2020).	Università Cattolica del Sacro Cuore Milano.	Effects of the lockdown on school-family relationships during the health emergency.	46 students, 79 parents, 41 teachers of pre-school, primary and middle school) from the cities of Milano, Brescia and Torino.	<i>Qualitative.</i> Interviews via whatsapp vocal messages.
13	<i>L'educazione ai tempi del Coronavirus (e dopo): risultati preliminari di una ricerca qualitativa condotta con i professionisti dell'educazione.</i> Local. Chierigato (2020).	University of Bologna.	School/family relationships during the health emergency. Role of educators and teachers to support families.	28 participants, divided in 5 groups: nursery educators; pre-school teachers; coordinators of educational services for 0-6 y.o; primary school teachers; middle school teachers. All from the Emilia Romagna Region.	<i>Qualitative.</i> Focus groups.
Norway					
1	<i>The Coronavirus Pandemic and Lessons</i>	International Journal of Early Childhood	Effects of the pandemic on preschools in their	Reports from three countries/ areas:	The paper provides little information of the data

	<p><i>Learned in Preschools in Norway, Sweden and the United States: OMEP Policy Forum.</i> International. Samuelsson, Wagner, Ødegaard (2020).</p>	(2020) 52: 129–144.	countries; teachers' experiences and actions in specific early childhood education settings.	Norway, Sweden and California.	collection which the reports are based upon.
2	<p>«<i>We Always Make It Work</i>»: Teachers' Agency in the Time of Crisis. International. Gudmundsdottir, Hathaway (2020).</p>	Jl. of Technology and Teacher Education (2020) 28(2), 239-250.	Teachers' experiences to online teaching in the early weeks of COVID-19 school closures. Previous experiences with online teaching and elaborations on readiness.	1,186 teachers from different parts of the world, majority of respondents from Norway and the US.	<i>Quantitative.</i> Online survey.
3	<p><i>How families handled emergency remote schooling during the COVID-19 lockdown in spring 2020</i> Vuorikari. International. Velicu, Chaudron, Cachia, Di Gioia (2020).</p>	Publication s Office of the European Union, Luxembourg, 2020.	Families' handling of remote schooling during the time of COVID-19 lockdown.	Parents and their children (10-18 years old) from 9 EU countries.	<i>Quantitative.</i> Online survey. The sample in all countries reached 500 families.

4	<i>Norwegian students' experiences of homeschooling during the COVID-19 pandemic.</i> National. Mælan, Gustavsen, Stranger-Johannessen, Nordahl (2021).	European Journal of Special Needs Education (2021), 36:1, 5-19.	Low, middle, and high-achieving students experiences of home schooling; effort and self-efficacy; experiences and support and feedback from teachers.	1,755 students in 8th to 10th grade from 93 schools in 21 municipalities in Norway.	<i>Quantitative.</i> Online survey.
5	<i>Spørsmål til skole-Norge. Analyser og resultater fra Utdanningsdirektoratets spørreundersøkelser til skoleledere, skoleeiere og lærere under koronavirusutbruddet 2020.</i> National. Federici, Solbue Vika (2020).	Research report. NIFU 13/2020.	Experiences from the school sector with the pandemic.	31 primary schools, 95 upper secondary schools, 9 county municipalities and 99 municipalities . 868 teachers in primary school and 1440 teachers in high school.	<i>Quantitative.</i> Online survey.
6	<i>Nær og fjern. Læreres erfaringer med digital hjemmeskole våren 2020.</i> National. Fjørtoft (2020).	Research report. SINTEF.	Teachers' experiences during home-schooling. Infrastructure, working conditions, learning environment and professional digital competence.	929 school teachers (primary, secondary, upper secondary).	<i>Quantitative.</i> Online survey.
7	<i>Koronapandemien i grunnskolen - håndtering og konsekvenser.</i> National. Caspersen, Holmedahl Hermstad;	Research report. SINTEF, NIFU.	Overview of organisation and management of schooling during the pandemic, views from diverse	Review of previous national studies on impact from school lock down due to the pandemic + 6 new case	<i>Mixed method.</i> Online surveys. Interviews.

	Dahler Hybertsen; Lynnebakke; Solbue Vika, Smedsrud; Wendelborg, Federici (2021).		stakeholders (school leader; teachers; pupils).	studies (qualitative interviews with school leaders and teachers).	
8	<i>Learning from the COVID-19 home-schooling experience: Listening to pupils, parents/carers and teachers.</i> Local. Bubb, Jones (2020).	Improving Schools, 23(3), 209-222.	Pupils, parents and teachers' experience home-schooling. School leaders' plan to change.	Teachers, parents, pupils (6-9; 10-16) school leaders in one municipality.	<i>Quantitative.</i> Online survey.
9	<i>Kids' Digital Lives During COVID-19 Times Digital practices, safety and well-being of 6- to 12-year-olds – a qualitative study.</i> Local. Letnes, Veelo, Stänicke, Indrevoll, Ní Bhroin, Rasmussen (2021).	Research report.	Digital technologies, including parents' and children's perspectives on remote schooling, online risks, screen-time regulations during the lockdown.	Interviews with 15 families with children ages 6 to 11 years old. Two municipalities.	<i>Qualitative.</i> Interviews.
10	<i>Oslo-ungdom i koronatiden. En studie av ungdom under COVID-19-pandemien. NOVA, OsloMet.</i> Local. Bakken, Pedersen, von Soest, Sletten, (2020).	Research report. OsloMet.	Students report on wellbeing and experiences of home schooling.	12,686 students in Oslo municipality.	<i>Quantitative.</i> Online survey.

11	<i>Læreres syn på undervisning og læring i spenningen mellom 1:1-klasserommet og avstands-klasserommet.</i> Local. Skotnes Kleiven (2020).	Master thesis. University of Oslo.	Teachers' pedagogical beliefs in physical classrooms and in homeschooling.	8 school teachers.	<i>Qualitative.</i> Interviews.
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4. Main themes that emerge from the studies

The OECD study *Learning remotely when schools close* (2020) can be considered a secondary source for our research, since it analyzes 2018 PISA data in order to draw useful considerations on emergency remote teaching and learning during the pandemic. PISA 2018 asked school headmasters¹ about different aspects of their school's capacity to enhance teaching and learning using digital devices. Across OECD countries, 65% of 15-year-olds, at the time the survey was administered, were enrolled in schools whose headmasters considered that their teachers had the necessary technical and pedagogical skills to integrate digital devices in instruction. Italy scored significantly below the average (50%), while Norway significantly above (75%). In Norway, this percentage varied considerably between socio-economically advantaged and disadvantaged schools, so to suggest that schools may reinforce rather than moderate the disadvantage that comes from individual home backgrounds. Across OECD countries, about 60% of 15-year-old students were enrolled in schools whose headmasters considered that teachers had sufficient time to prepare lessons integrating digital devices. Italy scored slightly below the average, while Norway was significantly above. The OECD general picture looked similar when it came to the availability of effective professional resources for teachers to learn how to use available digital devices. However, both Italy and Norway were significantly above the average.

In summary, the photograph taken by OECD PISA a few years ago shows that Norwegian schools and teachers were already more prepared and better equipped for remote teaching than Italians. However, in Italy, as well as in Norway, before the pandemic teachers had professional resources at their disposal to learn how to use new technologies for teaching.

¹ The data were collected as part of the global PISA assessment in 2018, and are based on representative samples from 79 education systems involving over 600,000 15-year-olds.

4.1 Digitalization of schools

The pandemic emergency highlighted serious gaps in the digitization of the Italian schools and wide disparities between «strong» schools, with previous experience, good technological equipment and teachers trained in the use of the new technologies and schools that were first entering the digital world at the time the pandemic begun. According to CENSIS (2020), less than 50% of the school headmasters who participated in a national survey declared that all teachers in their school were involved in remote learning. Teachers' inactivity, according to them, amounts to an average of 5%. Only 11.2% of the headmasters declared that all their students were involved in online teaching. If, on the one hand, the introduction of distance learning contributed to «decrease» the resistance to the new technologically enhanced learning tools, on the other hand it highlighted all the limitations and obsolescence of the Italian school system, starting from the infrastructural and cognitive digital divide (Filosa, Parente, 2020). National and local studies emphasise that some teachers also did not have devices and applications at their disposal that were sufficiently powerful to set up effective teaching strategies (SIRD, 2021; Parmigiani et al., 2020).

Norway has a strong broadband capacity, and an overall national digital infrastructure for education. This includes for example a national solution for secure login and data sharing in the educational and research sector. Furthermore, about half of the schools in the country provide their students with individual digital devices, such as iPads, Chromebooks or PCs, with the best coverage for older children (Skaftun, 2018). Moreover, most homes are equipped with at least one digital device with internet access. Another observation would be that for years several efforts have been made to ensure teachers raise their digital proficiency, such as strengthening the national curricula to include digital competence. The municipalities have conducted systematic competence development procedures at their teacher staff to enhance their professional digital competence. However, most of these activities have been conducted in traditional classroom contexts, and with only limited online activities. Nonetheless, Norway's overall digital infrastructure and capacity to meet the challenges related to homeschooling was apparently looking promising.

4.2 Technologies, teaching strategies and digital competences

In emergency, traditional/transmissive teaching strategies prevailed over interactive ones in Italian schools (SIRD, 2021). Teachers were not able to remodel the training proposal and therefore used methodologies that were not adequate to distance learning (Ardizzoni et al., 2020). According to a national study (Di Palma, Belfiore, 2020), when students were asked if professors had adapted their lessons to the online mode, over 36% of them replied negatively. The teachers' will to maintain the relationship with students was stronger than the thrust to study and learn new methodologies (CENSIS, 2020). According to a local study (Ciurnelli, Izzo,

2020), most teachers (61,1%) proposed remote activities starting from the first week of lockdown, despite the fact that 11% of the teachers did not have platforms shared with students or multimedia materials available. The proposed activities were of various kinds, but in most cases teachers offered a traditional lesson transposed to online mode (25.2%), or sent self-produced materials or materials found on the web (20.7%).

The constructive attitude of the teachers allowed them to manage online teaching across platforms, applications and digital materials largely unknown until then. However, the lack of knowledge of educational technologies for teaching impacted on the quality of the learning process. Teachers' perception of effectiveness was not proportionate to the increased workload. The main perceived criticalities concern the impact of remote teaching on learning, the quality of interactions and communication, the students' autonomy in learning, inclusion and assessment (SIRD, 2021).

In Norway, teachers reported little, or no experience with remote online teaching prior to the pandemic, yet most were quite positive about their professional development (Federici, Solbu Vika, 2020; Samuelsson, 2020; Gudmundsdottir and Hathaway, 2020).

Before the school close-down, many schools had some experience with digital home-school collaboration (Fjørtoft 2020; Gudmundsdottir, Hathaway, 2020). However, when it comes to teachers' professional digital competence, findings from an international teacher survey suggest that technical skills rather than competence in digital teaching was reported from the Norwegians respondents (Gudmundsdottir, Hathaway, 2020). There was also great variation in the frequency of real-time online classroom teaching students received within a week (Federici, Solbu Vika, 2020; Mæland, 2020; Fjørtoft, 2020), and teachers reported an increased workload due to this new way of teaching (Caspersen et al., 2021).

The teaching offerings during the close down thus deepened on teachers' digital competence (Fjørtoft, 2020). A local study found that families' experiences with how the teachers required daily attendance from their students varied, yet creative learning, better progress, useful feedback and greater student independence were reported. Here, school leaders reported that they wanted to implement changes based on the experience of remote learning enforced by the lockdown, so that the crisis has become an opportunity for grassroots innovation (Bubbs, Jones, 2020).

4.3 Students' digital competence and equipment

In Italy, the impossibility of having direct contact with students forced teachers to resort to different tools for communication and teaching. The choices of the teachers were impacted not only by their own competence, but also by the different equipment, accessibility and familiarity in the use of the tools by students and their families, acting as mediators, especially at the lower levels of education. Teachers reported technical

issues in communicating with pupils and in the perception of their effective participation in educational activities, in addition to problems deriving from the inadequate support provided by families. More than $\frac{1}{4}$ of the students who participated in a research conducted at the University of Napoli Parthenope (Di Palma, Belfiore, 2020) declared that they did not possess the necessary technological resources for learning remotely. More than 35% of them declared not to have a computer available for them at home.

In Norway, the national monitoring of the schools sector's response to the pandemic revealed that teachers' experienced complex challenges around teaching in the remote online classroom, where the students often had higher technical competence. For teachers with a dialogue oriented pedagogical approach, student's digital competence was considered helpful, as they could assist with some technical support, while teachers with a more traditional approach as content providers and with less experience with technology enhanced teaching were less enthusiastic (Caspersen et al., 2021).

4.4 Assessment

Italian teachers reported many difficulties in this area (SIRD, 2021). Remote assessment brings with it many necessary changes, because on the one hand it implies the use of different tools, on the other hand it requires a redefinition of the evaluation criteria. According to a local study (Ciurnelli, Izzo, 2020), methods of assessment changed deeply. More than half of the teachers who participated in the research (59%) feel quite satisfied with the results (level 3 of 5), but parents are less satisfied (from 1.9 to 2.7 average). More than 80% of parents with kids 6-18 y.o. believe that evaluation criteria were not made clear and 75% of them believe that the only criterion was presence at online classes. Students don't confirm this: 69% say they were informed about evaluation criteria and about 80% of them express a level of satisfaction between 3 and 4.

Many Norwegian teachers reported that much extra time was spent on making preparations and on giving feedback to students. The students had more submissions than normal. The more frequent submissions replaced that teachers could not walk around the classroom and follow up on students while they worked. Some teachers thought that the increased time for feedback was manageable, for example, one teacher emphasized that the time spent on socialization in the classroom was replaced with more professional feedback (Fjørtoft, 2020).

Students (grade 8th-10th) reported to get more feedback in general from their teachers in regular school than home-schooling, and the format of the feedback changed to more written and less oral during home-schooling. High-achieving students reported the greatest change during homeschooling (Mæland et al., 2021).

4.6 Educational poverty

In Italy, the distance has increased anxieties, frailties and inequalities and, often, left behind children and families with special needs. According to SIRD (2021), the estimated percentage of students who were not reached by emergency remote teaching is between 6-8%, that of the partially reached is 16-18%. In pre-school 13% were not reached and 24% were only partially reached.

Studies from Norway revealed an overrepresentation of students from lower socio-economic background among those who did not have good enough digital equipment/internet access at home (Fjørtoft, 2020; Bakken et al., 2020). A study from Oslo also found that immigrant youth were overrepresented here, which in turn seems to reflect socio-economic differences (Bakken et al., 2020).

Conclusions: implications for teachers training

The emergency of the pandemic, while causing great inconvenience, has provided an important opportunity for reflection on the digital competence of teachers.

In Italy, the training system for future teachers, especially for secondary schools, is still weak and digital competence is not systematically embedded in the curriculum. Several policies have addressed the theme of digital innovation in schools for the last two decades, but the results are still poor and very diverse throughout the territory. Some of the empirical research results discussed in this paper may suggest that the Italian shortcomings in the use of digital technology for teaching stem, in part, from a sort of «cultural resistance» generated by a lack of sensitivity and interest in this subject, which should instead be stimulated in initial teacher education programs and through in-service training. The experience of the pandemic has helped to decrease such a resistance, improving comfort and perception of self efficacy in the use of the new technologies for teaching. Several studies have reported that teachers plan to continue integrating the digital skills acquired during the pandemic into their teaching practice, even in a condition of restored normality. It is therefore crucial to introduce digital pedagogy in a systematic way in teacher training curricula.

While the digital infrastructure is considered well functioning in Norway, and digital competence for teachers has been on the (political) agenda for years, teacher's digital competence still remain unevenly distributed in schools, as well as in teacher education programmes. A key finding from Norway is that most teachers in Norway report to have improved their digital competence during the pandemic. However, we still do not know so much if they have become more technically competent, or if they have changed their pedagogical approaches. While some teachers may have managed to use technology in their teaching for the first time, to reach out to students from the online platforms in use,

and from there obtained self efficacy as described in the case of Italy, others may have been experimenting with new and innovative pedagogical approaches in online contexts. The spectrum of digital competencies may thus have evolved for most teachers, but in which ways, and to what extent remain unknown.

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Digital Education Design. Evaluation Approaches, Tools and Techniques

Teaching through Motion Design and Transmedia Storytelling. An Integrated Approach to a Critical Evaluation

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ABSTRACT: *The COVID-19 pandemic has contributed substantially to defining new teaching methods, to accelerating the learning and development of digital tools, and has intensified the use of videos as dynamic and captivating media closer to the younger students. The transition from direct to indirect learning methods and to deferred experience through the use of recorded video-lectures and tutorials was already tested by telematic universities and online courses and forces students into a passive role, with very little space for interaction, collaboration and relationship (even emotional). How can the pedagogical use of animation and motion design be improved in this context? This paper aims to provide a new method for delivering distance learning through animation and transmedia storytelling, trying to implement interactivity and participation. The margins for improvement are numerous, and we discuss the possibility of producing edutainment artefacts filled with interactive activities that ask young children to solve prestructured tasks and to experience multiple predesigned scenarios. «Choose-your-own-adventure narratives» are gaining ground in recent years and associates a playful component in which the viewer participates in the character's choices. Using transmedia storytelling for developing reflective learning can prove to be an interesting trial as it emphasizes the dynamism of the medium in building new learning experiences without removing the focus from the storytelling. A critical approach to the most effective tools to validate the proposed method, process and product is the evaluation objective of the paper. The integrated use of the developed evaluation tools, ultimately, has to test students' learning status and the communication effectiveness of the used method and products.*

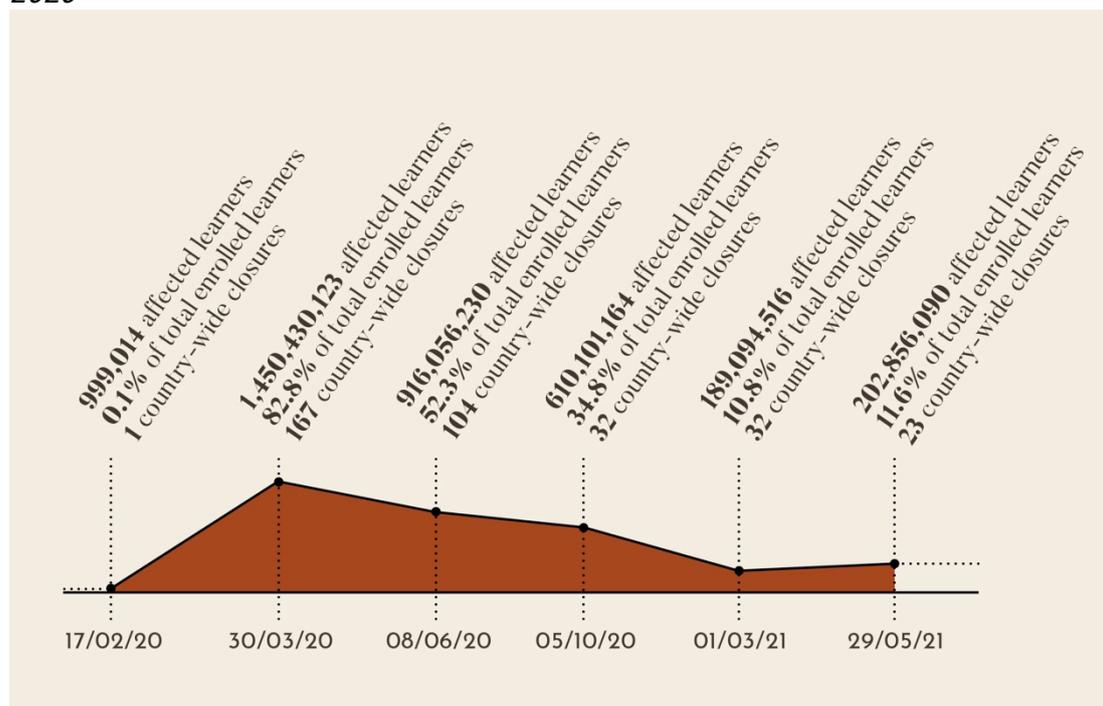
KEYWORDS: *Motion design, Transmedia storytelling, Agency, Couterfactualism, Evaluation tools.*

This paper shows the result of a common discussion and elaboration work, but the writing of paragraphs can be attributed to: Giulia Panadisi (Introduction, 1), Vincenzo Maselli (2, 3, Conclusions), and Valentina Faloni (4, 5).

Introduction

In a year and a half of the COVID-19 pandemic, almost all students in the world have been affected by the partial or total closure of schools for a long period of time (UNESCO, 2020) (Fig. 1): this has led online teaching to acquire a role of primary importance in education at all levels. The main means through which the transmission of notions takes place is video: live or recorded lessons, static or animated videos are the main product that students experience in the distance learning path.

FIG. 1. *Global monitoring of school closures caused by COVID-19 since February 2020*



Source: UNESCO – <https://en.unesco.org/COVID-19/educationresponse>

In one year, the implementation of infrastructures for online teaching has undergone an important acceleration, to the canonical videoconferencing systems – that allow the reproduction of the lesson live or in streaming (if previously recorded) – social platforms and new tools have been added to make the distance learning process faster and more direct in the virtual classroom. On the one hand the possibility of giving open lessons to a potentially unlimited audience and of having access even remotely to the educational contents by students represent the strengths of distance learning, on the other hand the lack of direct interaction and the lower emotional involvement constitute its weak points and are among the most discussed topics on the subject. Teachers who have been teaching face-to-face for years try to replicate dynamics and online dialogues (Mehall, 2020) through the interaction tools made available by digital and virtual tools. Teachers are pushed to increase the quality of their online courses, but quite often are unaware of strategies to encourage students

to interact and be more involved (Paquette, 2016). Improving the possibility of direct interaction between teachers and students is a fundamental step to make distance learning more human, and to give a more engaging and effective experience. It is necessary to design a hybrid learning strategy that involves the audiovisual product and the narrative component.

Starting from these premises, the early hypothesis is that motion design together with a transmedia narrative and interactive tools could build a valid teaching strategy and that it can assume a role of support for learning and interaction able to fill, at least in part, issues relating to social distancing in the context of school education.

1. Animation and education

The use of animated language for educational purposes is far from recent; as early as the second decade of the 20th century, the first experiments in pedagogical animation began and there are interesting cases of animation used as a tool to explain, clarify and visualize complex topics (Honesty Roe, 2013). Among the first attempts stand out *Tommy Tucker's Tooth* by Disney (1922) and *The Einstein's Theory of Relativity* by the Fleischer Brother's (1923). After the Second World War, some scientific animated documentaries were entrusted to Frank Capra by Disney, including *Hemo the Magnificent* (1957) and *Our Mr. Sun* (1956). In those years, animation was already a more complex tool than in previous decades with new techniques, and above all the diffusion of television in private residences of the majority of the population increased its presence. From the 1980s to the most recent years, the examples are countless and vary from successful series designed for children on television, such as the well-known *Il était une fois... la Vie* by Albert Barillé (1987) (Fig. 2), up to motion design videos for social platform such as those of the German animation studio Kurzgesagt (Fig. 3).

Animated language for a long time has contributed to teaching complex topics and has stimulated the involvement and interest of students. Motion design and animation reveal to be an attractive language capable of capturing the interest of different age groups, easily customizable and with the possibility of adapting to different platforms. The several animation techniques make them a modern and dynamic language in continuous growth, and so capable of attracting different targets.

The multiplicity of platforms and devices allows both a significant diffusion and technological progress of animated products in fields that require innovation. The user indeed, is increasingly involved in an «active» participation in the animated video through the interactive component. In educational contexts, it allows the student to participate in a dynamic and productive way, effectively building his learning path. In

the following sections we will describe existing samples of interactive audiovisual products and suggest how to apply these production criteria to the field of education.

FIG. 2. *Il était une fois... la Vie* – Albert Barillé, 1987



Source: LaStampa.it

FIG. 3. *Black Holes* – Kurzgesagt 2021



Source: <https://www.youtube.com/>

2. Interactive video e-learning: from augmented reality to agency

Dongsong Zhang in 2005 conducted an experiment to measure the effectiveness of interactive video e-learning, and demonstrated that students who experience fully an interactive learning environment get better results and enjoy the learning path more than conventional class conducted in a non-interactive environment (Dongsong, 2005). Another

research conducted by Jawid Nazir, Aftab Haider Rizvi, Ramachandra Pujeri in 2012 investigated skills development on animation interactive learning in higher education environments, and the results showed that those formats helped in better understanding (Nazir et al., 2012).

In animation, interactivity has been explored with different meanings. Animation interactive learning methods have been tested in the last years working with AR technology and smart devices. The impact of augmented reality has pushed experiments of fully immersive, headset-based VR experiences, that are now a powerful creative production tool for animation studios (a few examples: Pearl, 2016; Lily, Snot, 2017; Doctor Who, 2019; Lifetime Achievement, 2020 Paper Birds, 2020) and also a method for experiencing Interactive Learning. In 2015, for instance, the Dutch Studio *Analoog* took up a study to find out whether animation could have a positive effect on learning by using AR technology. A team of designers and educators tested a beta-version app that allowed students to scan a math problem with a tablet or smartphone and then, through augmented reality, view an animation that explained the problem.

AR experiences do not necessarily require agency. Agency is always interactive and – according to Janet Murray (1997) – allows «to take meaningful action and see the results of our decisions and choices». Consequently, agency is the element that elevates a better, and more involving narrative from a basic one. Through agency – according to Mark Meadows (2003) – the author allows flexibility in their story, enough that viewers can feel agents of change, even if every single change was orchestrated from the beginning.

Making decisions and seeing the results, even if in structures with limited branches, ensure the viewers stay invested in what they are watching, and can give the feeling of making a difference. The viewers' choices can lead to many unexpected scenarios, and although they might not always be pleasant ones, they have invested their time, a valuable resource they could have spent on something more linear that does not necessarily give them the same amount of control than an interactive film can give.

Most important, agency is a tool for education. Educational live-action videos and animation, as mentioned, have been used in schools, at home and at public events for decades. Regardless the style used and the data collected, the common format stages a pre-recorded footage with a voiceover narrating. These videos, therefore, lack an interactive element. As reported by In one study conducted in 2017, a study conducted in a class reveals a strong interest in using mobile and interactive devices in their learning process: 96 per cent of students described these tools with the keywords motivating, enriching and pleasant (Benkada, Moccozet, 2017, 5).

3. Agency in audiovisual products

Agency has been experimented in cinema and video production in the last 30 years.

In 1992 a short film titled *I'm Your Man*, directed by Bob Bejan, was released and showcased a new interactive cinema technology: a special controller embedded in each seat that allowed the audience to vote for the next action that should happen in the film. During its 20-minute running time, the film had six different points at which the audience could cast their votes (Fig. 4). The film was also released on DVD in 1998, and viewers could choose their actions with a TV remote.

Interactive videos have come a long way since this first joystick-controlled film, embracing a Video Game Aesthetic (Deen, 2011) made up of buttons, overlaying questions and specific layouts (Leppänen, 2020). Today viewers do not have to leave the comfort of their own home to see an interactive film, and the internet has made it possible for streaming platforms to thrive and develop new ways of watching content.

Black Mirror: Bandersnatch is an interactive *choose-your-own-adventure* episode of the Black Mirror series, created by Charlie Brooker and directed by David Slade. It was released in December 2018 on the American streaming platform Netflix. The film consists of short scenes that are meant to fit seamlessly together despite having a branching storyline. When the viewer is in the choice menu, the film will continue to play in the background instead of pausing until a path is chosen (Fig. 5). Another recent example of a completely interactive series is *You vs Wild*, produced by Netflix in 2019. The storyline revolves around making key decisions to help the British adventurer, writer, and television presenter Bear Grylls navigate in harsh, scary environments to survive and complete missions. Grylls speaks directly to the camera, asking the viewer to select between options like scaling a cliff or scrambling along the coastline.

An interesting recent interactive experiment is The Eko app, the world's first interactive storytelling platform that lets the viewer control the story, founded as Interlude in 2010, and rebranded in 2016. Eko's multimedia contents turn viewers into participants, providing them an unprecedented ability to seamlessly affect, control and influence the storylines as they unfold, by deciding which character to follow in any scene, and getting their perspective on the story, by splitting Key moments into different options, making audience's decisions determine the outcome, and changing every time the path of the story and so discovering infinite possibilities. (A few titles are: *Wizard School Dropout*, *Epic Night*, *The Coop*, *Timeline*, *Clothes Call*, *BuzzFeed*, *Cook Together*, *Make or Break*).

Netflix has embraced this new frontier of interactivity and extended the choose-your-own-adventure narratives to animated products. In 2020 the platform released a «choose-your-own-adventure» animation with the episode *Carmen Sandiego: To Steal or Not to Steal* (Fig. 6), an interactive

project less sophisticated than the previous *Black Mirror: Bandersnatch* and aimed at a younger audience. According to Petrana Radulovic (2020), indeed, the episode has a set, determined path, and if the viewer chooses a different branch, the story goes wrong. While the game's individual moments make full use of the 2019 show's animation and its usual creative team, the gameplay mechanics and the audience's choices don't have a big impact on the story. There's always a «wrong» option, and picking it will lead to failure. Then, after a few steps forward in the way of the wrong ramification, the game suggests heading back and selecting the «right» answer that it wanted all along. At other times, a wrong choice immediately launches the story's endgame.

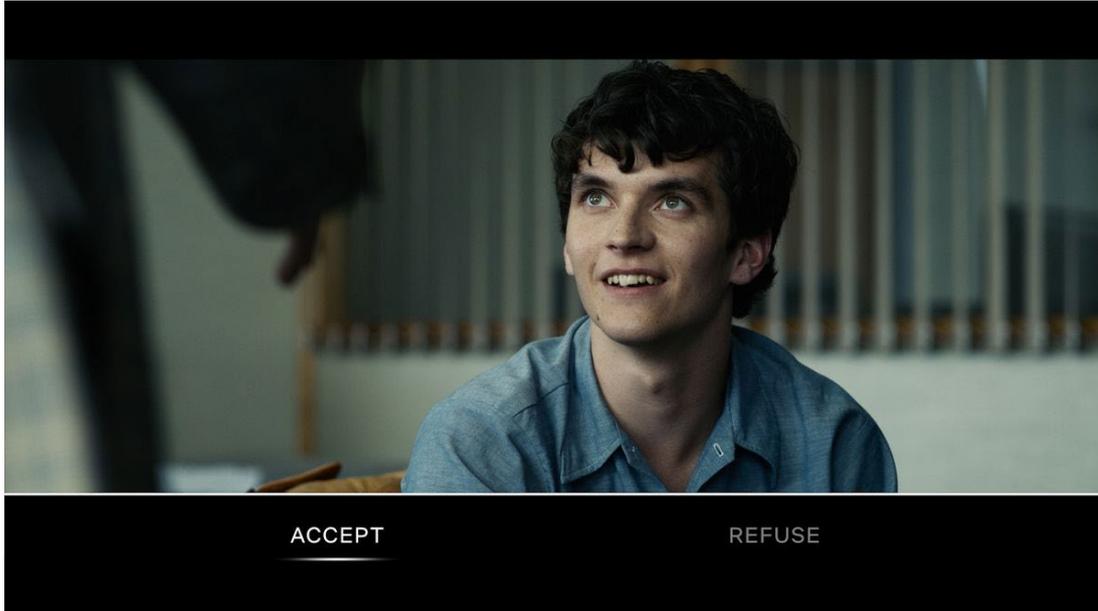
Interactive narratives, also known as «choose your own adventure» stories, allow the viewers to decide the direction of the story's plot. These narratives are a declination of transmedia storytelling, since they use different media (game, video and written text) and help to refine and integrate the user experience. Using transmedia storytelling for developing reflective learning (Dewey, 2019) can prove to be an interesting trial as it emphasizes the dynamism of the medium in building new learning experiences without removing the focus from the storytelling. Interactive narratives, therefore, make sure to have a more effective entertainment-education toolbox, since individuals are more engaged within the narrative (Moyer-Guse, Nabi, 2010).

FIG. 4. *I'm Your Man* – Bob Bejan, 1992



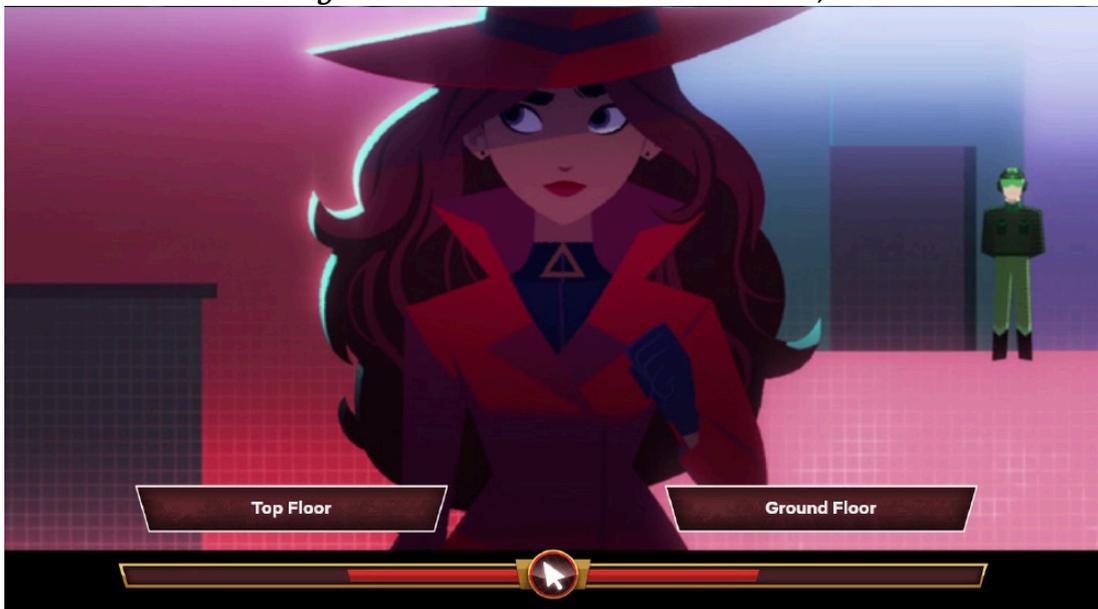
Source: *I'm your man*, DVD release 1998

FIG. 5. *Black Mirror: Bandersnatch* – Charlie Brooker and David Slade, 2018



Source: <https://www.netflix.com/>

FIG. 6. *Carmen Sandiego: To Steal or Not to Steal* – Netflix, 2020



Source: <https://www.netflix.com/>

4. «Choose-your-own-adventure narratives» and *counterfactualism*

In the studies on future thinking and on the cognitive effects of narration, *Counterfactuality* moves between reality and fiction, original and copy, true and simulated, representing a key element to understand the world that surrounds us, since it designates an «unreal» world somehow close to everyday life.

«Counterfactual thought» identifies human being's ability to imagine, formulate hypotheses, configure predictive schemes. Only by

considering a possible world we can reflect on reality and intervene to actively transform it (Gopnik, 2010, 36), and by understanding the causes of something we can imagine all the causes that *could have* become true and feasible. Imagination and causation, in fact, feed in a biunivocal way. For these reasons, the *narrative choice*, offered by a «choose-your-own-adventure narrative», gives the possibility of co-participating in the construction of a new knowledge and, at the same time, amplifying that learning process which, thanks to the use of the *story*, allows the learner to acquire new knowledge and to metabolize it. The function of counterfactual thought, in fact, is to reconstruct the past in the present by creating alternative representations to what has already happened, and to hypothetically simulate future events using the bank-data stored by our brain regarding what we have experienced (Calabrese, 2019, 174).

In the «narrative database» of our brain we keep the pre-existing images and structures related to the experience gained in the surrounding world, and the communications we have enjoyed and thanks to which we have been able to orient ourselves in the real world. Storytelling allows to resort to emotionality and some research (Gardner, 2002; Labar, Le Doux, 1999; Goleman, 1996) demonstrated the role played by emotions in making learning more effective. The narrative involves active involvement of the learner in the process of DIY shaping itself as an innovative device for training and for the recognition of their own learning history (Argyris, Schön, 1998).

John Dewey (1967, 2019) already insisted on the value of the narrative mode of thought as an opportunity to reflect on experience, but it was Jerome Bruner who demonstrated that the meaning of personal reality is achieved by the conceptualization of our own narrative, and also that stories are the way to organize, interpret and give meaning to experiences, ensuring a sense of continuity (Bruner, 1988, 1992). By making students participants and agents of their own knowledge through the choices of a «choose-your-own-adventure narratives», it is possible to redefine their role of actors in the learning process. The narrative, understood in this way, becomes an expression of an adventure, a reconfiguration of the self, a redesign of subjectivity, a reorganization of an existential dimension; a *task that* sustains, understandings, representations, but also desires and hopes (Laeneve, Gemma, 2013, 57).

This approach can, therefore, represent a formative path aimed at fostering a greater awareness based on the human, cultural, social components and so on, acquired during a learning experience, because the formative process is always and, in any case, peculiarly narrative (Batini, 2009). The training process, intrinsically relational, finds, in the mentioned relationality, *the* negotiation of the self with the self-others, as to say: educate narrating (Demetrio, 2012), give a narrative structure to the educational path, conceive of education not only as a time and place of explanations, of the transmission of knowledge, but also as reciprocal listening between narrative subjects whose identity is first and foremost a narrative identity (Laneve, Gemma, 2013, 59).

5. Evaluation tools for a narrative approach

The characteristics of narration can be summarized in three fundamental processes: the subjectivation; the assumption; the perspective plurality. Storytelling represents an act with a dual function: on the one hand it is a direct way to the interiority (narrative in reflective function), on the other it is an act directed to the context in which you are immersed (narrative in communicative, explicit, documentary function) (Laneve, Gemma, 2013, 38). The structure of the narration is well suited both to read phenomena and processes (the narration as a research tool) and to produce intentional actions and changes (the narration as a didactic strategy) (Cassani, Fontana, 2000). The basic idea in the use of storytelling methodology is the development of reflective learning, consisting of intellectual and affective activities. Narrative structures are just as important as the medium through which they are presented and help to interpret the experiences and complexity of social life.

For these reasons, evaluation tools as «evaluation reports», considered as a «progression of competence profiles useful to provide points of reference for the evaluation of learning» (Castoldi, 2016, 181), and as a device to conceptualize the levels of mastery of the expected skills and provide a useful framework for tools and subsequent evaluations (Castoldi, 2016), could be particularly suitable. «Professional diary» (by teachers) could be added to validate the application of a narrative method, already inherent in the use of transmedia storytelling, and to evaluate the experience and, therefore, the results of the process of knowledge and training, individual and collective, identity-related and educational.

A proposal could start by re-designing the «evaluation reports» proposed by Petrucco and De Rossi (2014) formulated to evaluate digital storytelling products. These reports, when applied for an assessment of process competence, are able to meet quality criteria such as validity, articulation and promotionality (Castoldi, 2016, 188). As anticipated, the use of «evaluation reports» – which investigate dimensions such as: monitoring; socialization; reflection; change; dissemination; and interaction – need to add the «professional diary» (Lavene, Gemma, 2013), in order to better monitoring the process. This occurs because the evaluation of the entire learning path conveyed by a transmedia storytelling that employs the «choose-your-own-adventure» narratives is aimed not just at measuring skills, rather than at reproducing knowledge, to its «original and functional reworking to a given context of action» (Castoldi, 2016, 188).

It is, therefore, an *authentic task* that aims to «encourage students to use their knowledge, skills, cognitive and emotional dispositions to develop answers to significant tasks and engaged in real contexts. The keywords of the evaluation process [...] become «inventing», «recreating», «applying», «reworking». The elaboration of authentic tasks indicates a mode of verification that aims not to limit the attention to the

knowledge or abilities reached, but to explore the mastery of the subject within a given domain of competence (Castoldi, 2006, 189). The concept of competence therefore focuses on the elaboration of complex socio-emotional cognitive strategies, especially when they are expressed in groups, which involve the active and personal use of their knowledge in creative activities. For this reason, an evaluation approach aimed at enhancing performance based on an «authentic, dynamic and active knowledge, connected to reality» (Comoglio, 2004, 38) aimed at developing a theoretical knowledge-practice consistent with the training path and with the objectives of a project that employs the «choose-your-own-adventure narratives», provides the elaboration of a specific heading declined on the elements present in the «general reports» in relation to the requested performance, outlining itself as the most appropriate tool for an assessment that considers each of the aspects presented. «Evaluation reports» are therefore a useful reference track to describe the characteristics of the student learning experience and a matrix of dimensions, criteria and indicators (Castoldi, 2016, 198) from which to start in order to acquire competences and in order to document the carried out distance.

Conclusions. Pedagogical objectives and design guidelines

Collected theoretical coordinates has brought to light that transmediality and interactivity should be effectively implemented to convey didactic contents, by allowing an active and shared participation and by structuring a narrative during the process. An interactive *choose-your-own-adventure* structure, therefore, allows to reach the following pedagogical objectives:

- transportation, as being able to participate in the narrative makes readers more immersed into the story, and «people who are transported into a story are likely to change their real-world beliefs in response to information, claims, or events in a story» (Jenkins, 2014, 11).
- Identification, as the character makes decisions taken by the viewer. Identification with characters allows to «merging with the character and sharing the character's knowledge about the narrated events, adopting the character's goals...and sharing the character's emotions» (Tal-Or, Cohen, 2010, 404). During identification, therefore, viewers adopt the character's point of view and knowledge.
- Responsibility, as having a hand in the actions of the story makes participants feel a sense of responsibility for the events of the narrative. Viewers choose the character's actions; thus they are likely to feel the consequences and outcomes in the story. These kind of agency in an interactive narrative could lead to more awareness about their choices (Jenkins, 2014, 15).

- Knowledge update. Experimenting with the resolution of a problem by operating on what is known about it, has a function of understanding and verifying knowledge. The choice made involves reflective thinking, conveyed by the story.

A new method for delivering distance learning through transmedia storytelling, trying to implement interactivity and participation, can be based on a series of steps and design guidelines. An animated didactic product, therefore, designed with an interactive *choose-your-own-adventure* structure, requires to:

- Write a narrative that – metaphorically or not – tells specific didactic contents;
- Build a learning process with agency that makes users' choices decisive for the continuation of the narrative;
- Structure a path with ramifications to be chosen freely without any imposition of contents;
- Structure a narrative with different «endings», each one demonstrates the correct application – therefore understanding – of a theoretical apparatus conveyed through the narrative itself. The implied screenwriting work involves the running of numerous storylines, each one is able to provide information to be learned in virtualized environments.
- Plan a shared experience. The narrative must be «crossed» collectively, following the gaming criteria of MMORPG communities and guilds made up of specific group of users (i.e. class group) who, starting from the same theoretical premises, must work together to choose which path will allow them to reach the «best» ending.

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Creating Meaningful Learning Paths with the use of Technology

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ABSTRACT: *This proof-of-concept study investigates on the use of technology in the process of personalized learning. The objective is to investigate the potential of technology in the process of personalization to improve inclusion and overcoming gaps, using the 4-shifts Protocol, developed by McLeod and Graber (2018), that captures the potential of the different models and a focus on 4 main areas: deeper thinking and learning, authentic work, student agency and personalization and technology infusion. The research investigates perceptions of teachers about potential of technologies for the customization of learning pathways. For this activity an Italian high-technology middle school with a large heritage of technological resources was chosen. The teachers were involved in a research-training activity focused on teaching practices and the design of personalized activities.*

For the process to reflect on the use of technology in the classroom with the experimental-school teachers, an Italian version of the 4-shifts protocol was applied to start a process of critical interrogation about the use of technologies in the learning activities. Objective was to design feasible learning scenarios that support deep learning activities to be able to maximize personalization paths thanks to the facilitating context of technological support.

KEYWORDS: *digital educational practices, deeper learning, digital literacy, personalization, 4-shift protocol*

Personalization

Every day in the daily life we live experiences of personalization. Mostly personalization occurs when services and resources are proposed us based on our interests and preferences. This is perceived as a positive experience, because often we are introduced to products/services we are most interested in or are most relevant to us, and at the same time the process save us from having to find them by ourselves filtering out from many competing products or services (Brown et al., 2006). An oft-cited example is the recommender system on retail websites: in which we are shown various products we may be interested in, based on our past

shopping history or that of others who have purchased or viewed the same product as us. In school context this experience is less common. More than thirty years ago Isaac Asimov affirmed:

Nowadays, what people call learning is forced on you and everyone is forced to learn the same thing on the same day at the same speed in class. And everyone is different. For some it goes too fast, for some too slow, for some in the wrong direction. But give them a chance [...] to follow up their own bent from the start.

He also predicted «everyone will enjoy learning if they have access to the world's collective knowledge and freedom to pursue their 'own bent'» (Isaac Asimov, Interview with Bill Moyers, PBS, 1988). In this sentence we can find the assumptions that led the pedagogical reflection to analyze the concept of «customization», although the identification of effective and widespread strategies of application is still far away.

The idea is that the content should be taught on an individualized basis that addresses the differences between students (Green et al., 2005).

For learners, personalization means adjusting the learning experience, through didactic and organizational strategies. Showing the learner resources based on ability, prior knowledge or personal relevance or giving adaptive quizzes that get harder as more questions are answered correctly (FitzGerald et al., 2017) represent strategies to limit 'one-size-fits-all' approaches. According to different research students' motivation, their empowerment, and attitudes to learning can be increase by personalized learning experiences (Jones et al., 2013; Pintrich, 2003; Järvelä 2006; Higgins et al., 2008). Especially when students are given the opportunities to stimulate their creativity and curiosity. A personalized curriculum in the higher education could find educational answers for the fast-moving job market (Bovill, 2013; Kinash, 2014).

Although the idea of personalization is appealing, the reality of its implementation is much more complex. Selwyn (2016) argues that in many schools, personalized learning has been reduced to the presentation of the same content in a different sequence for different students. Sebba highlighted that in literature, personalized learning, is often described as an overall concept and there are limited studies providing evaluative data on personalized learning. Consequently, the evidence of the impact of personalized learning is lacking (Sebba et al., 2007). These critical perspectives of the individualized concept and some personalized learning aspects unexplored, underline there are numerous fields still need to be analyzed, explored and to be identified as a set of proposals for an effective and sustainable approach to the school world.

Greater agreement among researchers on the role that technologies can play in personalized learning processes because Technology is functional to promote a more active student role (Reiser, Butzin, 2000).

Digital technologies may enable personalization, through the four key areas feedback (assessment and recognition); choices (i.e. learner voice

and choice); skills and knowledge (curriculum), and learning environment (pedagogies and institutions) (Green et al., 2005).

As far as feedback is concerned technologies allow access to a diverse range of assessment forms more functional to support the reflection and motivation.

Moreover, technology systems can provide students the helpful information to take the next steps in their learning (Kingsbury et al., 2014).

Finally, feedback in technology systems is automated and so teachers can focus on more high-level commentary (Broadfoot et al., 2013; Drover, 2015).

Regarding the area called «choices» and the freedom of navigation between the contents promotes more meaningful learning (Jonassen, 2000) as well as the development of learner autonomy (Schnackenberg, Sullivan, 2000).

In the «skills and knowledge» area, technology-enhanced technological environments prove to be functional to older content to match different instructional objectives

The last section is regarding the learning environment. Technologies allow access to different teaching and learning approaches and resources that meet in parallel various students' needs.

The last section is regarding the learning environment. Technologies allow access to different teaching and learning approaches and resources that meet in parallel various students' needs. Moreover, technologies allow students to experience their knowledge in contexts authentic, appropriate and continually updated. The best manner to integrate technology into the curriculum-based culture of schooling is still objecting to research. The present research work, therefore, sets itself the ambitious objective of identifying a strategy for action and a proposal for integration.

1. Technology and Frameworks

Several conceptual models were developed to support the integration of technology in the classroom, like: Technological Pedagogical Content Knowledge (TPACK) framework (Shulman, 1986; Mishra, Kochler, 2006), Substitution Augmentation Modification Redefinition (SAMR) (Puentedura, 2006; 2014), Replacement, Amplification, and Transformation (RAT) framework (Hughes et al., 2006).

All these frameworks aim to overcome the replicative use of technology (doing the same things use to do in an analog classroom only with digital tools) in learning/teaching activities.

The TPACK framework developed in the Nineties by Lee Shulman (Shulman, 1986, 1987) and extended 2006 by Mishra and Koehler (Mishra, Koehler, 2006) is composed by three domains of knowledge: content, pedagogical and technological knowledge. Concisely, the TPACK framework underlines using digital tools in the classroom, teachers need

consider that the introduction of a third component causes also new intersections for the spheres of pedagogical and contents knowledge.

Another framework is the Substitution Augmentation Modification Redefinition (SAMR) Framework (Puentedura, 2006), which is developed in four stages that divided in two main groups, one group describes how technology can enhance the activities in the classroom and the other group describes how technology can transform them. The goal of the SAMR framework is, integrating it overtime the activities should be move from the stage of substitution, doing the same as in an analog environment, to the stage of redefinition, the activities are differing from the analog environment.

The RAT framework (Hughes et al., 2006,) is like the SAMR framework, but unites the two middle steps augmentation and modification of the SAMR framework in one single phase: Amplification.

McLeod and Graber (2018) developed a technology enriched lesson unit protocol, the 4 Shifts Protocol, which captures the potential of the different models and frameworks putting a focus on four main areas: deeper thinking and learning, authentic work, student's agency, personalization, and technology infusion. The goal was to define a protocol for discussions, classroom observation that permits teachers to reflect about their technology integration, improving student's higher-order-thinking skills in disciplinary topics.

The protocol itself has been released with a Creative Commons BY-SA copyright license and the first version is shared as pdf file (<http://dangerouslyirrelevant.org/wp-content/uploads/2018/10/4-Shifts-Protocol-Solution-Tree-Reproducible-2.pdf>).

Through a set of question for every section, it guides educators to interrogate themselves about the purpose for the use of technology in the classrooms. The questions of the protocol are in majority 3-point Likert question with the values 'Yes', 'No', 'Somewhat'. In some cases, there are sub-questions if the chosen answer was 'Yes'. For the section that investigates on student agency and personalization the 3-point Likert scale values are 'Students', 'Teachers', 'Both' and no sub-questions. There are no open answer questions. The four sections are investigating in the following dimensions:

- Section A – Deeper Thinking and Learning: Engage students in tasks of greater cognitive complexity and improving transversal skills like creativity, communication, collaboration, and critical thinking.
- Section B – Authentic Work: Provide students with learning tasks that include that also involves the knowledge of local, national, and international communities to apply to real-world problems and to overcome silo teaching of single topics restricted to the dimension of the classroom activities itself.
- Section C – Student Agency and Personalization: Move to less teacher-controlled learning environments to a learning space with greater student agency and autonomy about space and time, to allow

students to take control of learning and guide them in the process of personalization of their learning process.

- Section D – Technology Infusion: Move to globally connected digital enriched learning spaces.

What the protocol offers is a set of recurring questions asked during a hypothetical teacher training to apply the TPACK or the SAMR framework to help to design or redesign the activities in the desired direction.

2. Research

2.1. Methodology

To investigate teachers' conceptions about the potential of technologies for the customization of learning pathways has been chosen a mixed method approach (Creswell, 1999; Trincherro, Robasto, 2019).

For the first part of the research activity presented in this contribution, an Italian high-technology middle school (Apple Distinguished School qualification for the digital training of its teachers) has been chosen and teachers were involved in a research-training (Magnoler, 2012; Asquini, 2018) activity focused on teaching practices and the design of personalized activities.

Due to COVID-19 restrictions training activities was organized through 5 webinars. During the webinars, though several data was collected to investigating on the use of technology in the teaching practices in class.

The information collected, and graphically systematized, was used as a means of reflection on educational and didactic practices usually used by teachers. The role of researchers has been to support the processes of reflection of teachers and in the activities of co-planning of customized educational courses. Researchers will support teachers in reflecting about the use of technologies in their teaching activities to improve practices of personalization and inclusion.

2.2. Schools and Participants

The school is a charter middle school in the Milanese hinterland. It is in a single building which has 18 classrooms. The principal has been in the school for 5 years now; there is a quite important turnover of teachers because of the transition of teachers to public schools. The school has a total of 540 pupils. In 2019, the school obtained the Apple Distinguished School qualification for the digital training of its teachers. Over time, the school has invested heavily in technology tools and each student has their own tablet at their disposal. The entire school is connected to the network which they use daily. The background socio-economic of the families is high, although there are economic supports from the region that make participation easier.

The teaching staff of the school has an average age of 35, due to a high turnover to the public school. The research was attended by teachers from 5 departments (Arts, English, Italian, Science/Math, Technology), 1

digital education teacher and 1 religion teacher, who is also a counselling and support figure for students. (Table 1)

TAB. 1 *Number of teachers in each department*

Departments	Number of Teachers
Arts	1
English	5
Italian	5
Science/math	5
Technology	2
Religion	1
Digital teaching	1

2.3. Tools: Protocol implementation

For the process of co-design with the teachers at the high-tech middle school, an Italian version of the 4 Shifts protocol was applied to start a process of critical interrogation about the use of technologies in the learning activities to design feasible learning scenarios that support deep learning activities to be able to maximize personalization paths thanks to the facilitating context of technological support.

To archive the goal the protocol was translated in the Italian language, following the suggestions made by the authors of the protocol themselves, shared with the teachers group. After a short presentation of the protocol and its purpose, the participating teachers decided to group for the existing departments (Technology, Arts, English, Science, Italian) and to apply the protocol to for them well-known activities, to reflect and improve them. The groups filled the protocol in autonomy and shared their thoughts and ideas for a redesign in a second focus-group in a three-week distance.

3. Objectives

- To investigate the perceptions of teachers about the potential of technologies for the customization of learning pathways.
- Identify in teachers' educational projects, commonly used, personalized learning tools
- Identify and experiment personalization strategies through technologies
- Design learning scenarios that support deep learning activities to be able to maximize personalization paths thanks to the facilitating context of technological support.
- To investigate the usability of Italian version of the 4 Shifts protocol to start a process of critical interrogation about the use of technologies in the learning activities

4. Results

The 14 participating teachers answered the questions of the protocol divided in groups for their disciplines (Technology, English, Italian Language, Arts and Science). The answers were analysed separated by the five disciplines and the four sections of the 4 Shift protocol. Due to technical problems not for every discipline group, all answers were registered.

For the Section A- Deeper Thinking and Learning the answers show that all teachers perceived their activities able to engage students in learning processes that enable critical thinking, communication, collaboration, and problem solving. Only the disciplines Italian Language and Science valued that their activity for 50% focus on these skills. (Fig. 1). Since this section investigates on the process of metacognition or to take initiative, not all the activities proposed are able to include the whole spectrum of suggestions made by the protocol.

FIG. 1. Section A – Deeper Thinking and Learning (Percentage value for subject)

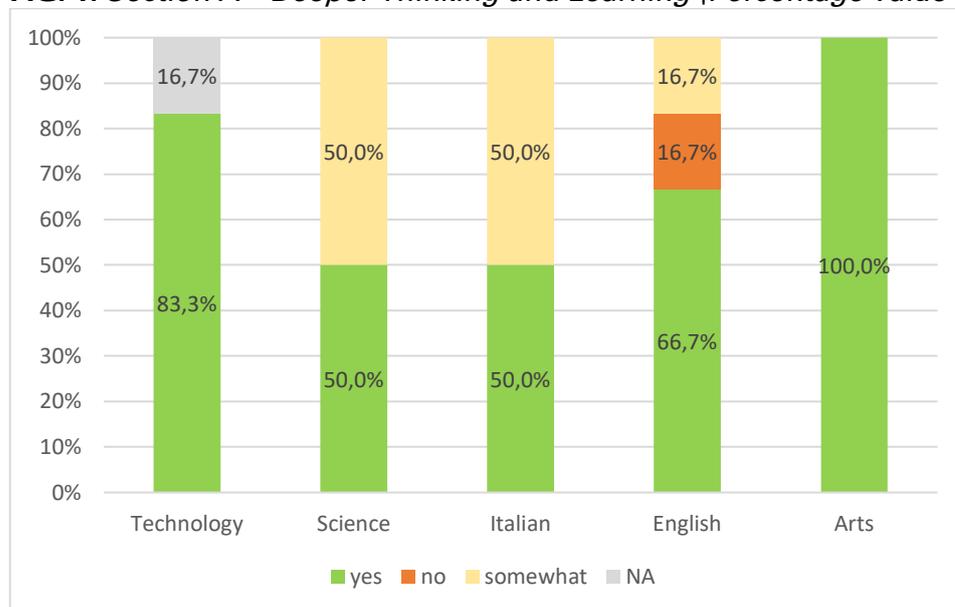
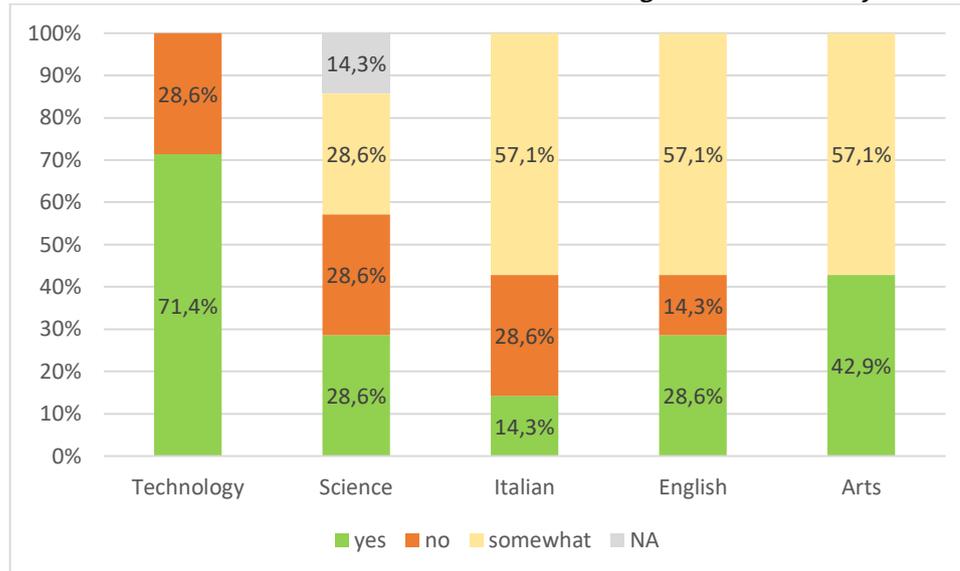
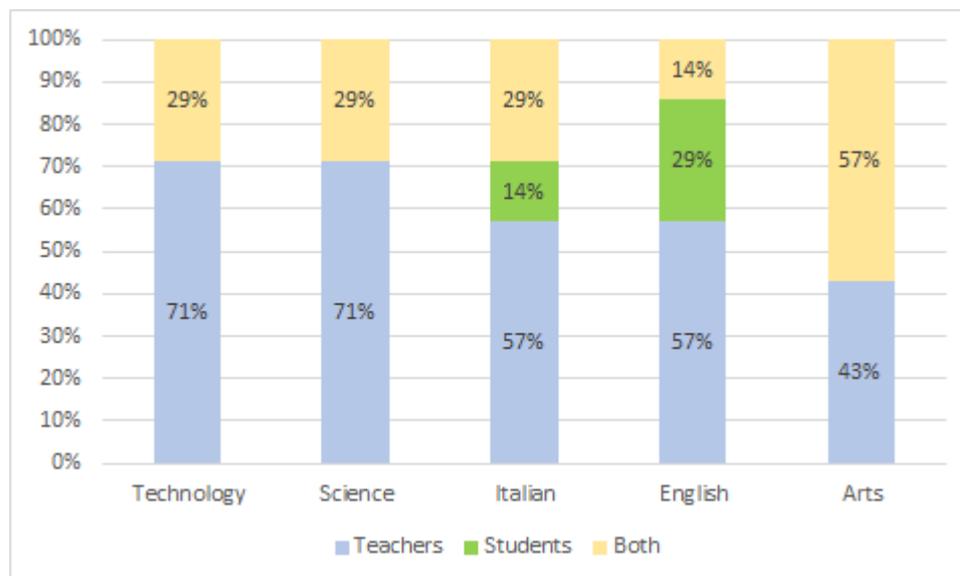


Fig. 2 shows the answers for the question group that is investigating on the dimensions of authentic work. Questions are about the fact if real people outside of school also do this kind of work or 'Are students learning discipline-specific and -appropriate content and procedural knowledge'? For this the teachers answers are shifting from a plain 'Yes' to 'Somewhat' or 'No'.

FIG. 2. Section B – Authentic Work – Percentage value for subject

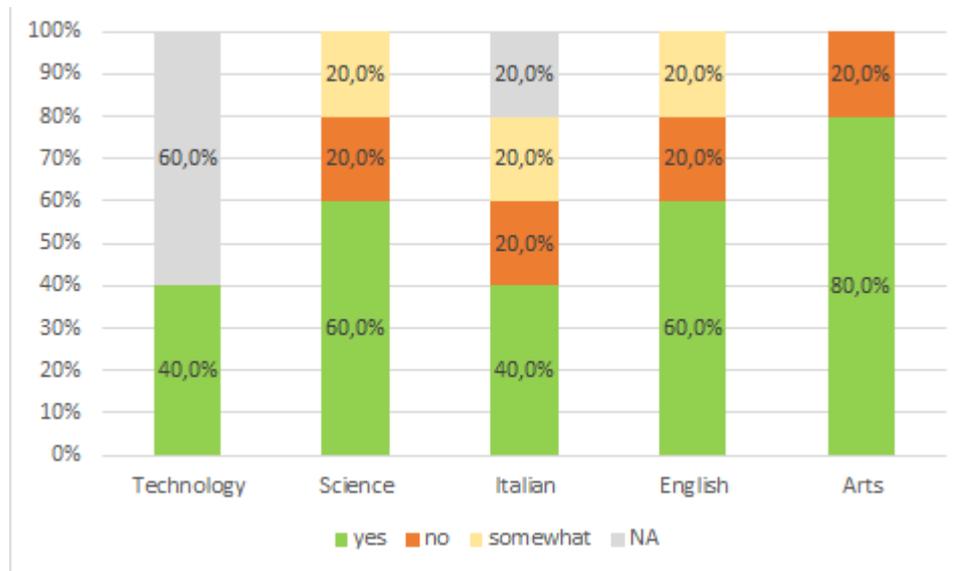
The third part of the protocol investigates if the use of technologies is enhancing personalization or enabling greater student agency and choice. For example, 'Who selected how students demonstrate their knowledge and skills and how that will be assessed'? The answers show (Fig. 3) that for four disciplines the activities and choices for more than 50% are teacher drive. Only in two cases (Italian, English) the answers was 'Students'.

FIG. 3 Section C – Student Agency and Personalization – Percentage value for subject

The section of technology infusion investigates on the added value of the technologies used and, on the students, digital skills. Excluding the NA values, the figure shows that the teachers' perceptions mostly positive

('Yes', 'Somewhat') for this dimension. 4 out of 5 groups answered at least 60% positively.

FIG. 4 Section D: Technology Infusion – Percentage value for subject



During a focus group aimed at investigating the strengths and weaknesses of their 4-shift protocol we found following statement in common, that we analyzed and grouped following the SWOT scheme.

About the strengths they report:

- The protocol implements no valuation for the 4 dimensions investigated on;
- A reflective tool that guides the discussion through important key points for the use of technology in the classroom.
- The focus is on precise topics and areas that easy to locate in the activities.
- The analysis led to an intentional re-design of well-defined indicators.

About the weaknesses they recognize:

- For some areas, there are (too) many single indicators/topics.
- The output of the protocol answers is based on self-perception and/or e-evaluation.
- There are no indications for the improvement.
- No relationship between the indicators of the four sections.

About the opportunities they highlight:

- The 4Shirt protocol is a useful tool to guide the process of critical interrogation within the groups of teachers.
- The protocol is a helpful guide to target the needs of teachers for training and/or different types of technology.

- The protocol leaves space for student agency and active involvement in planning and personalization of the activities by the students themselves.
- Analyzing activities in groups, following the protocol implementation creates a constructive dialog with fellow educators.

About the threads:

- Some answers are depending on the school infrastructure and not the teacher.
- The output of the framework depends on teachers' self-evaluation, it is not always objective.
- Some indicators/topics are requiring a solid domain knowledge of methods and technologies.

Discussion and Conclusions

The 4-shift protocol was proposed to a school that already had an elevated level of technology present in the classroom: this was an opportunity for researchers to understand how and if the technological tool can support the processes of learning and teaching from the perspective of personalization.

The implementation of the 4-shift protocol allowed to foster the discussion about how and for what purpose technology is used in the classroom activity. To answer the question from the protocol about a lesson or unit in small groups and not individually led to a fruitful discussion: it has been especially useful to redesign the activities about the use of technology in process of personalization.

Although teachers declare to already use technology in the classroom, the discussions and the questionnaire reveal that this use does not yet enhance the personalization of the activities. The answers to the protocol questions highlighted that the analysis of student needs and the range of technology tools can be further improved. For that reason, the use of the 4-shift protocol was especially useful by the teachers.

However, some teachers complained that too many questions for one section are not helpful to focus on the main objective and that some questions are needed more contextualization. This could be due to the inexperience and missing knowledge. Even that the protocol was developed as non-judgmental tool, the teachers still felt to be evaluated on their given answers, this may be due to the fact the principal organized the teacher training and initially it was not a perceived need from the teachers' side.

The protocol lends itself well to research and training because it facilitates reflection and practice. Answering the question in groups led to a deeper constructive discussion not only between the subject teachers of a solitary group but also with principal. This has allowed the analysis of their needs to foster a deeper implementation of technology.

Considering the findings, during the upcoming school year the actions will involve: to define shared indicators to identify students' needs for personalization (diagnostic function); to identify tools and/or guidelines to customize the teaching/learning approaches according to the emerging needs; to create tools for personalization to support and improve integrated and transversal co-design between different disciplines.

This will allow to maximize the use of programs and applications that support and improve the process of personalization and feedback and it could be useful to the process of metacognitive analysis.

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The WhatsApp Cares You

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ABSTRACT: *The pandemic situation originated by Sars-Cov-2 caused the cancellation of many training and refresher courses for health workers and exposed health workers to something unpredictable and very stressful. The thirteenth edition of our training course had to start in March 2020 and proposed the reflection on care action of the health worker through the medical humanities approach, to explore some different arguments such as pain, resilience, mindfulness about health and stress in the daily work and the skills to communicate bad news. Since we were going on the thirteenth edition, a WhatsApp group had been made since the last two editions for all participants. The digital group was functional to announce the meeting dates or to communicate some logistic aspects of the course such as the opening registration, arrangements on the food for the coffee break. But, at the same time it became an intimate and confident virtual environment, where every participant tried to help each other. Accordingly, we decided to continue the 13 course of Medical Humanities using WhatsApp to support health workers to cope and resist the unknown. In fact, on the same date planned for the course we sent on chat the arguments and the method to reflect on work. During the emergency digital media have all taken on the valuable role of surrogate presence, allowing interactions that otherwise would not have taken place and all this is appreciable. Sharing stories to experience as a group, even if digital as a WhatsApp chat, can be an opportunity to listen to other points of view, a story told by another person. TOM (Theory of Mind) also refers to the ability to «represent subjectivity». We found a way to give health workers the possibility to rethink one's own experience with others and to be helped to «reposition» the right distance, and accept this limited situation, but also we learned a lot about the human condition from the participants.*

KEYWORDS: *Medical Humanities, Social Media education, Theory of Mind.*

1. Introduction

In February 2020 the pandemic situation originated by Sars-Cov-2 caused the cancellation of many training and refresher courses for health workers. Indeed, in the first six months of 2020 the courses were stopped

We thank the participants in the training course for their willingness to get involved and to deal with the difficulties of work.

We thank Prof Davide Massaro for a critical review of the article and suggestions with the construct of the theory of mind.

and struck off. In fact, all the human and money resources were destined for the care of patients and the many cases of Sars-Cov-2.

The doctors, nurses and paramedics were working in the hospital under pressure and in an alienated situation never seen before. In fact, they were trying to understand how that disease could be resolved and they were learning by doing without any certainty. Furthermore, fear, stress and the difficulty to understand what was happening added to the challenge. The thirteenth edition of our training course had to start in March 2020 and end in October 2020 and it was planned on 5 meetings of 4 hours each, once a month, except in July and August. The course proposed the reflection on care action of the health worker through the medical humanities approach (Zannini, 2008), for example using a film to stimulate the reflection about how to communicate with patients. For instance, in the past we had explored some different arguments such as pain, resilience, mindfulness about health and stress in the daily work and the skills to communicate bad news.

Since we were going on the thirteenth edition, a WhatsApp group had been made since the last two editions for all participants. The digital group was functional to announce the meeting dates or to communicate some logistic aspects of the course such as the opening registration, the position of the classroom, arrangements on the food for the coffee break.

2. The change context

«I'm sorry... I can't say anything... we are becoming 60 COVID beds, we are in arms... I can't know anymore». When this WhatsApp message arrived in chat all participants changed their feelings and they began to care. After that, we witnessed this first intimate storytelling and many other tales were coming out. In a few days everybody had an expression in chat about their own work situation: «also we were switched from the operating room to intensive care». The physician fatigue was worse than the psychological one, and those who were listening couldn't stay indifferent: many other tales and many other thoughts of affinity and of feeling were sent in the chat.

We were the teachers of this group and we chatted all together. After that, we decided to send a special meditation with a poem and voice sound to guide this group in the name of the last course about mindfulness.

The first reactions were good:

(9/3, 12:42) N.: Thank you Gisella! beautiful idea, a nice wish. I'd like if you re-create other moments like this, to feel us to resist. best wishes to everybody 🌈 Thank you... It's wonderful thought 🧡 🌟 😊

(9/3, 15:53) A.: Thank you Gisella !!! beautiful ❤️

(9/3, 16:00) R.: Thanks a lot, very useful!!!

(9/3, 16:17) F.: Thanks Gisella, after the work day was useful and relaxing 👍

It was only a little piece of opportunity in a large sea of terrible illness where they were living in hospital.

(9/3, 19:19) M: Thank you everybody. My incompetence is over. The human relationship is lost. We don't say hello because we have a few times and we are nervous. The calls to the patient's family about their bad conditions are frequent: you can talk with them for 5 minutes and after that you can discover that they were unknown about where the parent was and how he was feeling. The patient's family discovers at the same time that he has the virus and he will die soon. In addition they can stay next to him because we cannot let them come in.

Intimacy and confidence were the ambient of the chat, every participant tried to help each other as much as possible. In fact, some collaborative relationships were born in the chat and some real help was realized. For example, a district doctor became a hospital-based doctor such as his chat colleagues. The WhatsApp group was able to become a real logistic and feeling support such as the literature says (Grajales III et al., 2014): «they found that the most common type of groups on Facebook were centered on specific medical conditions (e.g., malignant tumors), peer-to-peer support, and fundraising for support groups, organizations, and individuals.» (Farmer et al., 2009)

Human situations never end and we never learn enough about them, we could continue forever to reflect on the management of them, and to discover how to be able to do so. The Humanities can be a valid method to approach them and to learn to live in painful and senseless situations. It is possible with the use of Arts instruments such as poems, photos, pictures and films, because these artistic materials are based on the reflection of the Human. We are teachers of training courses with a Medical Humanities approach. The life world and the teaching world are always in communication as phenomenological arguments claim, in fact we have our history that is the most important influencer with our personality to teach. Otherwise the teachers learn a part of their students and a part of their student's tales.

3. The stages

Accordingly, we decided to continue the 13 courses of Medical Humanities using WhatsApp. In fact, on the same date planned for the course we sent on chat the arguments and the method to reflect on work. For example, across the 5 meetings dates 5/5-9/6-22/9-13/10/2020 the participants could explore these themes: to present yourself; to imagine to meet something of strange one and describe it in a little tale; to send the soundtrack which helped you to resist on work or out of the job; to

write a letter to yourself in 15 years; to reread all the facts and all the objects in a blog made by the teachers.

1. Presentation of the participants. The first delivery is to reflect on what has enabled them to resist in this situation, namely what is the object to which they have clung every day to gain strength to go to work, or even to listen to all these stories and even the news that comes from the news and the media in general.
2. We calibrate the content of deliveries as the health situation and work environment develops. The second meeting in May aims to move on something symbolic projective, always through writing: imagine yourself in an encounter with something that is not defined, what is it? What should I do? Like the new and I move? How do I relate and relate? It turns out to be a difficult task because moving with
3. The June meeting instead wants to work on the sounds on the music, those that have been the background or soundtrack to the days of work, those that have given energy, breath possibilities. The chat is filled with music and music videos, memories and thoughts even of the most «remote» past.
4. With September we decide to look even further: what will we tell you about this year? Will we write about this year 2020 in 15/20 years? To reflect on this experience, in which we lived the closure, the terror, the fatigue, then we lived a little bit of opening in the summer «breathing the cool», and then start again and return, but how do you start again? And now that we are in October that presents the scare of returning to those situations of closure and danger, how do I go on?
5. October. Reread everything that has happened in recent months. A work of archiving the chat was gradually allowed to save all reflections and shared photographs. all the material produced was organized in a blog that was shared with the participants in the last virtual meeting.

4. Methods

We analyzed the materials with a phenomenological review IPA (Smith, 2009; Mortari, 2010). Specifically, the researchers analyzed the materials collected during the training proposed via WhatsApp, with the methodology of qualitative and phenomenological research: independently the two trainers have reread the entire blog and associated the labels and then get to the general categorizations. There is another similar italian report research by SIMEN (Società Italiana di Medicina Narrativa) that realized R-Esistere. The project, born during the COVID-19 pandemic, is an invitation to remember a moment, an emotion, a person, a place and to tell one or many stories from the point of view of doctors

or nurses, but also from that of patients and their families. The narrations were analyzed in compliance with the strict modality of the Qualitative Research and the results, together with the Quantitative data.

5. Results

Irony and Resilience

This is a group that demonstrates his capacity of joking, of finding strategies to resist the unthinkable:

the internist who no longer knows who he is, who no longer knows X what he is, who so much wanted to do that job and who consoles himself with love poems on the state...

I'm the one with the Panoramic View... I'm fighting the COVID-19 with the vintage prosecco, for the moment it works... I sleep well, some headaches in the morning... but I'm not complaining...

Call me sadness !!! Writing is the only way to find the words, «living» the intensive care every day has stolen them... Patients hospitalized are not only lonely, serious, they have also to deal with personnel who they cannot recognize because they seem ready for a mission to Mars

The literature indicates that humor and irony are a component of the resilience process (Cyrulnik, Malaguti, 2005), located on the first floor of the resilience casita. Humor is the condition of reaction par excellence, together with dialogue and the true relationships. Humor comes from the unusual: something habitual certainly does not create fun. When something unusual or frightening breaks in our lives, we try to transform it into familiar, towards irony; humor constitutes the link between sense and nonsense helping us to reconstruct meanings.

Tales that take care

Writing has always been the main way to take care of themselves. Writing helps to distance oneself from what has been experienced. By writing, the experience is structured, you can link facts and emotions.

The creative writing allows you to develop a greater ability to cope with the critical issues and uncertainty to which a situation like the one experienced has exposed; narrating the encounter with something unknown, which scares us, crosses us, forces us to focus our thoughts on what we are experiencing and try to insert it into a horizon of meaning. (Zannini, 2008)

Music and Sounds

Music to overcome difficulties gives energy to calm the spirit and the breath. Music has the power to affect our health by causing brain changes at the biochemical level (Swaab, 2017). It is therefore not just an artistic activity, but a form of care and self-care, a chance to remember and get

in touch with our deepest emotions. (Patel A.D., 2016)

For a rockmorning... This song personally recharges, in the past I listened to it before a marathon or intense workout in the gym... Now before a meeting or when I'm a little down... Of course turn up the volume... THUNDERSTRUCK – AC/DC

But also the sounds and sounds of nature as the sound of the wind in your hair, as opposed to hospital sounds

I have no music. In the 3 months of the COVID-19 I worked, worked, worked. Just at home I turned off radio and TV: I did not want to hear anything, to hear again about COVID-19 after hours harnessed, closed, treated by many, not just me of course, almost like a plague woman. Alone, fundamental, without knowing what to do. And so it is even now: we do not know anything about the COVID-19. I still dream at night of the eyes of Claudio, 55 years old, healthy, who look at me, he cyanotic, asking me to do something x he mind I x he couldn't do anything.

[...] Or maybe there are some notes: those who, just outside the ward, pedaling fast on my bike, finally letting the wind ruffle my hair, screaming bits of the most stupid songs, completely alone, trying to let a little pieces of life in me.

Take care of the group

In the last «meeting» the teachers built a blog to help participants to discover the sense of «group's experience» lived on WhatsApp. (Weinstein, 1987). The blog seems a map in which everyone can seek his own direction and meaning as well as a collective one.

The blog also contains pictures, poems, phrases that participants shared on chat between the meetings. The group comes alive and is populated with many images that tell the real, alive world, outside the hospital, to support themselves and continue to resist; we could call them resilient images, the force of nature that goes on despite everything or perhaps precisely because of everything.

And then the images deposited in the chat become alive, they are animated, for each observer of the group, with new meanings, because it is the gaze with which each of us observes them that creates the meaning and tells a story, each time different, that is intertwined with the stories of others.

6. Comments

Group movement in WhatsApp

From a perhaps more sociological and psychological point of view, the chat was made up of many people, most of the participants in the training course in the past years. The active part of the chat concerned people who had done more than one training course. Since these people had

experienced in the classroom an atmosphere of work on their own narrative, they were already aware of the respect and intimacy that would come to be created. «Without a doubt, during the emergency digital media have all taken on the valuable role of surrogate presence, allowing interactions that otherwise would not have taken place and all this is appreciable» (Grimaldi, 2020). Indeed, this medium could have been a potential risk (Megele et al., 2020). So, the confidence that was possible even with the use of this digital tool is very likely due to the fact that people had memories of the climate that was created in the classroom during our training meetings.

Thinking about your own emotional and mental states

Theory of mind (ToM), metacognition, and affections/emotions are three aspects of psychological functioning but it was showing the common origins of mentalizing and metacognitive ability in the intersubjective exchange (Cavalli et al., 2007)

In their perspective (Liverta Sempio, Marchetti, 1995; Liverta Sempio, 2002; Marchetti, 2002; Antonietti et al., 2006), Theory of Mind is an ability both cognitive and affective, that develops from a shared work between primary caregiver and child, in which the dialogue between minds takes place through a meaningful emotional communication, as we will deepen in the last part of this work.

Similarly, the training proposal through the medical humanities aims to train narrative skills on mental and emotional states in a context of adult education, just in the sense of retracing or experiencing the dialogue between minds (Zannini, 2008).

Currently the most commonly used terms in literature, alongside the expression Theory of Mind, are those of mentalization (Fonagy, 1991) and reflexive function (Fonagy, Target, 1997); they are often used as synonyms, in accordance with Sharp, Fonagy and Goodyer (2006) the term «mentalization» refers to the ability to have an insight into another person's mental state» (Cavalli et al., 2007, 350)

Sharing stories to experience as a group, even if digital as a WhatsApp chat, can be an opportunity to listen to other points of view, a story told by another person.

Tom also refers to the ability to «represent subjectivity» (Battistelli, 1992), that is, to attribute mental and emotional states to understand human actions. «The 'intrapersonal' Tom, which underlines introspection, is about understanding one's own mental states and understands the ability to reflect, maintain opposing representations of objects or events, and learn» (Cavalli et al., 2007)

Narrating during a pandemic, an extraordinary situation where conceptual maps and clinical responses were being built gradually was probably an opportunity to understand and give meaning to the actions and choices made (Mittino, 2013)

7. Conclusion

Was this DP13 training?

The setting of training was digital and it was such as a no-formal education with liquid engagement. Indeed, it was a free course, all people in the chat could write, read and answer messages. The «teachers» provided clues, tools and moderators of homework and sharing.

However, what happened here in the WhatsApp group is a device in which the narration contributed to the construction of the experience that was being lived and through the written word we took care of ourselves and others in a narration of encounter with the other.

WhatsApp was a tool to be close to its members in a proactive way, to care for peer-to-peer support, and fundraising for support groups, organizations, and individuals¹.

We found a way to be next to these health workers and to be able to listen to them closely, but also we learned a lot about the human condition of both patients and operators from the participants.

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Learning AI and AI for Learning

Beyond the Click. The (Potential) Contribution of Plug-Ins in the Educational Design of Online Courses

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ABSTRACT: *The contribution focuses on some of the main technical and educational potential of the «plug-ins» that can be installed on the Moodle LMS platform. The paper will describe some of the most frequently downloaded and used learning analytics tools on the Moodle platform. One of the plug-ins presented goes «beyond the click», it is a tool designed to offer more complex processing (going beyond descriptive analysis). Its distinctive open-source nature, combined with machine learning, makes it a particularly interesting tool, opening the way to the possibility of making predictions about a student's success, paving the way for exciting future scenarios.*

KEYWORDS: *Learning Analytics; Plug-In; Moodle; Teaching-Learning.*

1. Learning analytics and online learning

The Learning Analytics sector (from now on «LA») has become a significant area of research in the field of Technology-Enhanced Learning over the last ten years or so. In particular, «a combination of the availability of big datasets, the emergence of online learning on a large scale, and political concerns about educational standards has prompted the development of this field» (Ferguson, 2014, 145). However, while the educational potential of LA is not yet fully understood, there is compelling evidence that LA will help develop a more student-focused higher education offering, and provide data and tools that institutions will be able to use for continuous improvement in the quality of their educational provision. In the words of Fabbri and Trisolini (2020):

(the) participation of numerous users in online courses has shifted interactions onto the net. These computer-mediated interactions are recorded in log files inside which the operations performed by the interface systems and by users on hardware devices and software applications are stored in chronological order. Through the analysis of these log files and LMS environments by administrators, teachers and tutors it is possible to monitor accesses, the use of videos, user interactions and abandonments (108-109).

Long and Siemens (2011) highlight, among other things, the fact that the most critical factor that will influence higher education institutions in the

future concerns big data and, in particular, how these datasets will be analysed and interpreted. Evidently, the analysis of big data can help educational and training institutions to improve decision-making processes, optimise the allocation of resources, monitor students' difficulties in good time and offer adequate forms of support (Ivi). According to these authors, the most important objective is to advance the quality of teaching and learning through the activation of adjustment and improvement processes which involve content, feedbacks, strategies and teaching activities.

In recent years, Learning Management Systems (LMS) have provided a particularly interesting area for experimenting with LA tools and techniques. Through the use of these online environments, in fact, it is possible to extrapolate some data that can be fundamental not only to track the quantity and quality of the cognitive and social processes of a hypothetical participant, but also to provide predictions about the student's educational success.

Following this idea, the contribution shows the main technical and educational potentials of some «plug-ins» that can be installed on the Moodle platform. These are plug-ins that go «beyond the click», in other words, they are tools designed to go beyond «simple» tracking (e.g. how many times the user actually clicked on that video, or how long they made use of that resource, etc.) and that enable more complex and enhanced processing not only on the quantity but also on the quality of the participants' cognitive and social experience.

As a result, one of the most interesting aspects of research in the Technology-Enhanced Learning field is that related to the design of 'learning scripts' that require students to engage not only in individual tasks, but above all in complex, well-structured scenarios of collaborative learning and problem solving, which require individual and group learning activities to solve real problems; that require course participants to take on roles in order to achieve group objectives and results or to share ideas and topics using virtual workspaces, etc. (Dimopoulos et al., 2013). Alongside this process of educational innovation, it is strategically important to develop and adopt LA tools and techniques that can 'photograph' the complexity of a teaching-learning process in a more appropriate and targeted manner.

2. Plug-ins undergoing development: The Moodle scenario

Starting from an analysis of the online learning and learning analytics (LA) landscape, it is clear that the Moodle platform is one of the most widespread and most widely-used LMSs (learning management systems), above all in the academic field (Schiavone, 2017). This platform currently has more than 180,000 sites and about 258,000,000 active users

in the world¹. One significant advantage of LMSs which leads to increased usage concerns its great flexibility, as regards the times and ways it can be used and the possibility of having improved accessibility (Zhang et al., 2020). Much of Moodle's success is also due to the particular manner with which it was created and distributed, that is, as an open-source resource.

The strength of an open-source product is its possibility of being implemented by anyone with adequate programming knowledge, thus providing opportunities to expand the range of actions that the platform can operate.

The free creation of third-party expansions (called «plug-ins») highlights the participation of programmers in the improvement and implementation of a tool that is – in a Husserlian perspective – intentionally transformed and shaped according to the purposes of use. Moodle and its implementation ecosystem allows users to exploit, on the one hand, the database in use since the release of Moodle and, on the other, the plug-ins made available by the community that expands this basin of possibilities.

Plug-ins are, therefore, third-party software programs that are used to expand the possibilities of the basic program. The moodle.org site contains a rich reservoir of these software programs and an internal search engine to help users to move around more easily. Currently there are 1794 plug-ins² uploaded to the page hosted on moodle.org, but the number is continually growing and new plug-ins are, in fact, checked and validated every day.

The plug-ins page allows users the possibility to carry out a search according to purpose: administration, assessment, collaboration, communication, content and interface. In addition to searching by purpose, users can also enter the search variable by type of plug-in required; there is a wide variety of plug-in categories, from «activity modules», to «themes» and various types of filters, restrictions, import methods and data export. Within the search engine, there are also other advanced search variables that can be set: the version of Moodle on which the plug-in will be installed; the type of recognition (awards) received from moodle.org (functionality on a certain version, recognition for being privacy friendly, for mobile support, recognition by reviewers); and others.

To organise the various search results, it is possible to define the order in which they are shown, based on certain variables:

- Relevance: the presence of the searched words will have a greater weight and importance in the ordering of the items
- Sites: this index is based on the number of sites where the plug-in has been activated

¹ On Moodle, page of statistics <https://stats.moodle.org>.

² Moodle Plug-ins searching page <https://moodle.org/plugins/>.

- Downloads: this index is based on the number of downloads from the site
- Fans: this index is based on the number of positive comments received regarding the plug-in
- Recently updated: the presence of plug-in updates will have a greater weight on the order in which the results are displayed
- Recently added: this sorts plug-ins chronologically, from the most to the least recent

This plug-in archive shows some plug-ins by number of downloads, number of community preferences and number of awards from moodle.org. From among these, we based our study on four plug-ins searched by means of the keywords «learning analytics» and «time management». The searches were oriented towards these two variables so as to build a range of possibilities, to understand on the one hand, what things are analysed by learning analytics (LA) and, on the other, how online course users' perception can be improved by using these tools. Within the selection of LA, we focused on tools that did not show the use of external proprietary algorithms for data processing. The choice was made in order to present a sample that adhered to maximum transparency in data processing, so as not to use proprietary algorithms. Generally speaking, LA programs that rely on proprietary algorithms supplied by data analytics companies do not provide the opportunity of fully understanding the models used for processing, precisely because they are external and company-owned. In short, LA programs with proprietary algorithms also contain 'raw' data from the platform that will be placed into a blackbox and then returned with results after being processed by these algorithms whose values or functions are unknown. The plug-ins that were looked at are shown in Table 1:

TAB. 1. *The plug-ins considered with the analysis*

Name	Type	Maintained by	Sites	Downloads	Fans	Awards
«Monitoring of learning plans»	Reports	Issam Taboubi, Marie-Eve Lévesque	1045	556	130	Privacy friendly; Automated testing support, Early bird 3.2
«IntelliBoard – Your data. Right here. Right now.»	General plug-ins (Local)	Anatoliy Kochnev	1638	1000	114	Privacy friendly; Automated testing support, Early bird 3.3, Early bird 3.5, Early bird 3.7

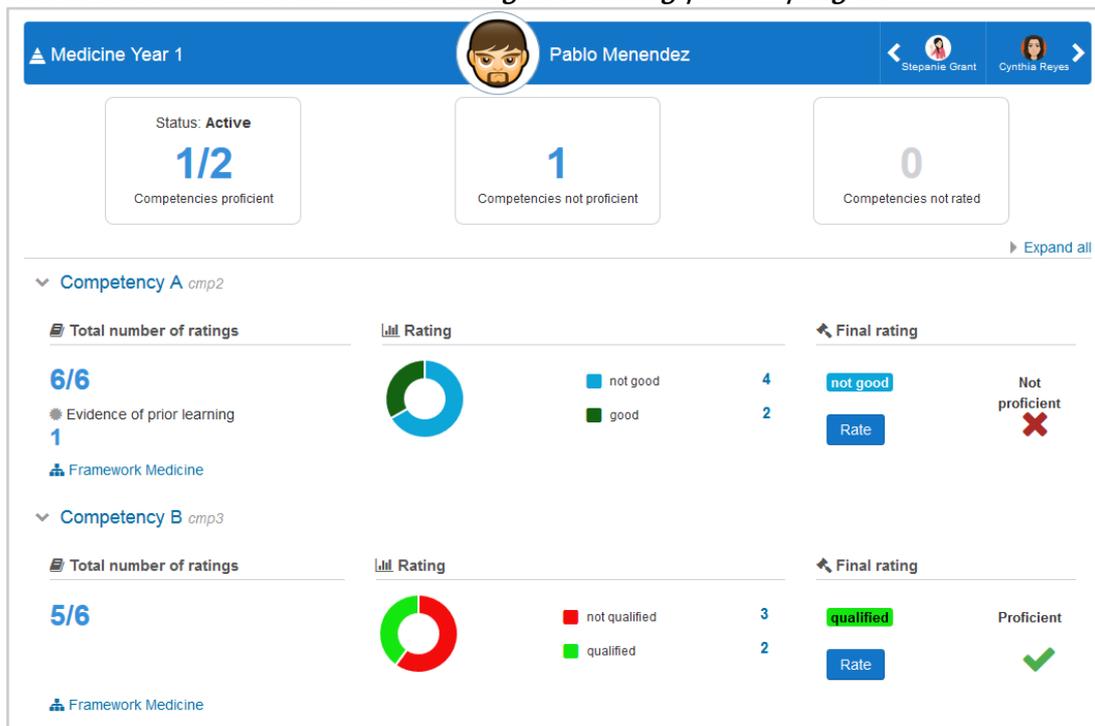
«Level Up! – Gamification»	Block	Frédéric Massart	7182	3000	460	Reviewers' choice; Automated testing support; Privacy friendly; Early bird 3.0; Early bird 3.2-3.8;
«Completion Progress»	Block	Michael de Raadt	9793	3000	214	Privacy friendly; Automated testing support

2.1. A brief review of the selected Plug-ins

2.1.1. «Monitoring of learning plans»

The «Monitoring of learning plans» plug-in collects together various items of information coming from the Moodle platform within a single space and provides the results in graphic form, so that users can quickly view and interpret the various parameters, including the positive and negative percentages of the activities carried out and the skills acquired or otherwise, thanks to the overall count of completed activities.

FIG 1. Screenshot of the «Monitoring of learning plans» plug-in



Source: Moodle plug-in page https://moodle.org/plugins/report_lpmonitoring

The description of the plug-in shows its clear intention to facilitate the work of managing a learning plan, providing a graphical and statistical overview (of the individual and the group).

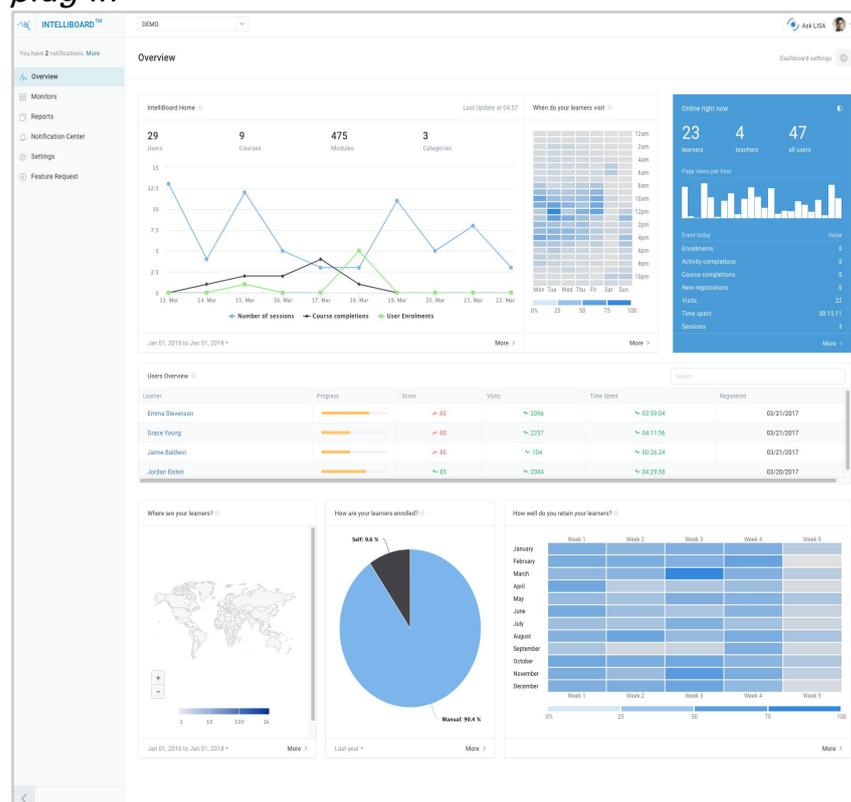
This plug-in requires some preparation work of the online course involving the division of the students into cohorts, so as to be able to process some reasonable and comparable statistics. The plug-in also works on data from the learning models within the course and then also requires the «competencies» in the individual activities to be established.

The course will therefore need to be prepared fully in all its parts, thus giving the plug-in all the information so that the data can be organised graphically, with particular attention to the information relating to competencies and the assessments of its activities (Fig. 1).

2.1.2 «IntelliBoard – Your data. Right here. Right now»

IntelliBoard works on the statistical data from Moodle, aggregating and presenting it in the form of tables and graphs (also printable) to get an overview of the progress of the course students, with reports that can be customised according to requirements. One of the strengths highlighted in the plug-in description is that it allows all the charts and progress data to be shown together on a single page, enabling the user to understand the commitment of the students at a single glance.

FIG. 2. Screenshot of the «IntelliBoard – Your data. Right here. Right now» plug-in



Source: Moodle plug-in page https://moodle.org/plugins/local_intelliboard

As illustrated on the page of the plug-in⁴, by processing the data on accesses and the tracking of individual activities, provided by the Moodle platform, this analysis tool can work on various levels:

- Tracking visits and activities of individual students (with the ability to send messages automatically if a student is not very active)
 - Student involvement
 - Use of course content
 - Access to the course
 - Progress summary
- Identification of at-risk students (by tracking and involving students, and by cross-referencing the data of the completed activities and their results)
 - Student success and progress
 - Summary of the student's status
 - Late students
 - Overdue homework tasks
 - Student/average in the course
 - Details on the status of the activities
- Assessments (the quiz trend tools can help by showing which questionnaires are understood the least, thus providing the opportunity to implement educational material on those aspects)
 - Quiz activities on the student
 - Quiz marks
 - Quiz overview
 - Quiz distribution
- Tracing the commitment of teachers (teachers are also fully tracked like students, so as to have the opportunity of understanding)
 - Teaching activity
 - Teaching performance
 - Most active courses
 - Most active teachers

2.1.3 «Level Up! – Gamification»

This very popular plug-in brings gamification mechanics onto Moodle to enhance the experience of learning and student involvement.

The same LA data discussed above is used, by reorganising and transforming the data into scores according to daily accesses, for example, but above all in relation to the activities; in so doing, some game and «point accumulation» mechanics are introduced, precisely like bringing gamification inside the course (Innocenzi, n.d.).

Scores are awarded to students in a programmed manner, relating to the actions taken by the student (the scores and the number of levels can be customised and programmed by the administrator) and always show the current score of the student and how many points are missing to go on to the next level. The transition to the next level can be used to release new content and gives the opportunity to gain new experience points.

Scores can also be viewed through an overall ranking; thanks to special permits within the platform, teachers can also obtain the overview of each student and the activities in which they have excelled or those where they had had some shortcomings.

Fig. 3 shows a demonstration screen of a ranking (Ladder)

FIG. 3. Screenshot of the «Level Up! – Gamification» plug-in

Level	Participant	Total	Progress
6	Aubrey Howard	1,203 ^{XP}	329 ^{XP} to go
5	Austin Harris	972 ^{XP}	114 ^{XP} to go
4	Eleanor Shelton	535 ^{XP}	208 ^{XP} to go
3	Enola Noel	302 ^{XP}	177 ^{XP} to go
2	Joris Robert	214 ^{XP}	62 ^{XP} to go
1	Vedat Durmaz	103 ^{XP}	17 ^{XP} to go

Source: Moodle plug-in page https://moodle.org/plugins/block_xp

2.1.4 «Completion Progress»

«Completion progress» is described³ as a time management tool for students; it visually shows the completed activities and those missing by means of a «progress bar» (Fig. 4).

This simple plug-in is based solely on data gathered from the task completion settings and provides students with the possibility of keeping track of their work progress.

FIG. 4. Screenshot of the Completion Progress plug-in



Source: Moodle plug-in page https://moodle.org/plugins/block_completion_progress

This progress bar may also be analysed by teachers with regard to the learning path, so as to allow them to shape and edit the course based on their reading of the collected data.

³ Moodle plug-in page https://moodle.org/plugins/block_completion_progress

3. The Inspire plug-in

Inspire is a project conceived by Moodle.org in order to implement LA, but above all, as indicated in the description of the software, «a project that aims to go beyond simple descriptive analytics to provide predictions of learner success, and ultimately diagnosis and prescriptions (advisements) to learners and teachers»⁴.

The description page clearly explains the integration with the most recent versions of Moodle (from 3.4 onwards) as a tool for LA.

Like all LA instruments, this one uses data from the platform, namely: accesses, times, the time spent on individual pages, activities, assessments, latency in task deliveries and all the tracking details given by the internal activities to the platform. Unlike other plug-ins, however, it uses this data to create a predictive model, relying on machine learning and then being able to exploit modelling that is consistently implemented, if set within the courses, and that will increase its predictive quality.

In the core version of Moodle, which is complete and improved with respect to the plug-in which has a few limitations, the LA component enables more data to be read than other LA tools which read accesses, assessments and the completion or otherwise of activities. This software uses modelling also on a scale with the level of involvement which is calculated based on the diversity of the activities performed. Fig. 5 highlights the two dimensions in which the activities are determined: the «social breadth» dimension and the «cognitive depth» dimension. On the «social scale», we find individual work, work in small groups, work with exchanges between groups and a global task; the «cognitive scale» starts with cognitive work of reduced cognitive impact (such as the reading of a text or viewing material), and moves to one with greater impact: such as, for example, the response to a stimulus, the loading of a written task, participation in a debate and collaborative creation of learning materials.

FIG. 5. Screenshot



Source: Moodle plug-in page https://moodle.org/plugins/tool_inspire

⁴ Moodle plug-in page https://moodle.org/plugins/tool_inspire

The limitations of using this LA tool lie in the fact that it cannot be used on free continuing education courses, which have no start and end dates.

Conclusions

Authors such as Kadoić and Oreški (2018) emphasize that LMSs have become, over the last twenty years (also in the educational field), a specific area of scientific research. In parallel with these studies, there has been an increase in the development of tools, such as LA, designed to improve the quality of teaching proposals, in addition to monitoring the educational experience in online courses.

Through LA, teachers can receive feedback on the progress of a course and can then be in a position to calibrate more effectively a plurality of factors, such as the study load and the final and intermediate tests. The data processed by these systems can shed light on the effectiveness (or not) of the tools and the teaching strategies used.

The most recent research and experimental activities (Zhang et al., 2020; Romero and Ventura 2020) focus on the identification of the procedures for interpreting the data acquired through data mining algorithms, assisted by a guided reading of the data extracted by the same platforms. Elizabeth Dalton, research analyst with Moodle and promoter of the «Inspire» project, is part of this interpretive overview and data reading.

When reporting to the community of Moodle⁵ on the operation and benefits of «Inspire», the author highlights the «open» nature of the tool. Unlike other LA tools⁶ which use proprietary algorithms, «Inspire» exploits the logic of machine learning. This tool is designed to be an open system (the algorithms are «visible») and is potentially improvable from the point of view of technical programming. Through the use of machine learning, the LA tools become analytical tools based on models that are self-implementing. For example, you can forecast in advance potential abandonment rates on a course. The predictive model is then driven beyond the single item of data (e.g. the number of times a document has been opened), the completion of activities or other things. This data is

⁵ Moodle Conference about reveals *Project Inspire: the open solution for learning analytics software*, presented by Elizabeth Dalton: <https://www.youtube.com/watch?v=-JSYwn42R6Y>

⁶ In the landscape of LA tools, the general requirement is to read some material and interpret the data that is often more relevant to a technical field rather than the educational field. The plug-ins listed in the first part, in fact, show a more «aggregative» than «interpretive» nature. In other words, the work of interpretation is entirely delegated to the teachers. This factor may reduce the possibility of the data being understood by many teachers, especially by those not trained in the analysis and interpretation of data in such environments. In this regard, it is worth noting the recent studies by Romero and Ventura (2020).

integrated through a «learning model» that allows for making increasingly more precise predictions.

Finally, returning to the reflections of Chen et al (2020), scientific research is increasingly focusing its attention on the application of algorithms and artificial intelligence in education. A growing interest on the topics of machine learning and artificial intelligence seems to be emerging, thanks also to Moodle's «Inspire» project, also with regard to how those elements may contribute towards enhancing the interpretive and predictive functions of LA. The advent of tools like «Inspire», which bring flexible models based on machine learning, extends the field of play for the analysis of learning data by making the data more accessible and thus providing the opportunity to exploit it in order to increase, in process terms, the quality of online courses.

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Smart Education through Artificial Intelligence

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ABSTRACT: *The application of artificially intelligent techniques to assist the effectiveness of e-learning within a higher education context has been verified and accepted by both the education and computer science domains. The technologies developed through Artificial Intelligence (AI) whereby electronic systems are able to learn and generate a unique learner profile have made it possible to personalise and improve online learning environments. The digital version of a learner's distinctive academic portfolio encapsulates specific information regarding that same learner including academic achievements, strengths and weaknesses, together with personal interests, needs and inclinations, as well as, dislikes, limitations and vulnerabilities. Such personal attributes are partially explicitly declared by an online student on enrolling to a virtual learning environment (VLE), and in part generated by the learner while interacting with the same environment. The data that the learner's activity generates together with all the characteristic information that can contribute to the exclusive academic learner profile is collected by the VLE, processed, and re-employed to customise the next online learning experience. Learning analytics refers to the opportunistic use of such data in an effort to optimise the learning process through the elevated learning environment. A higher frequency of interactions with the smart environment the superior and accurate is the learner profile as it continuously refines itself through an expedient cycle of data collection, information processing and profile re/generation. In this work we present a number of matters that contribute to the above scenario while providing a detailed narration of how AI can contribute to the education domain on a number of counts to contribute to a smart education concept. We converge our attention towards the customisation of a VLE whereby we provide a walk-through of the smart learning environment we have created and employed with our undergraduate students. This same smart VLE has evolved over time as novel machine learning techniques have been integrated including deep learning neural networks and explainable AI. We also present numerous recommendations and best practices through the favourable results achieved and the positive feedback provided by learners and educators. All this provides enormous encouragement to delve further into this interesting and exciting area of research as we seek to continue to improve e-learning effectiveness and enhance the online learning experience. The future of smart education depends entirely on further progress within the AI domain as new and efficient intelligent techniques provide additional value and potentially characterise the future of online education and e-learning.*

KEYWORDS: *Artificial Intelligence, Machine Learning, Learner Profile, Customisation*

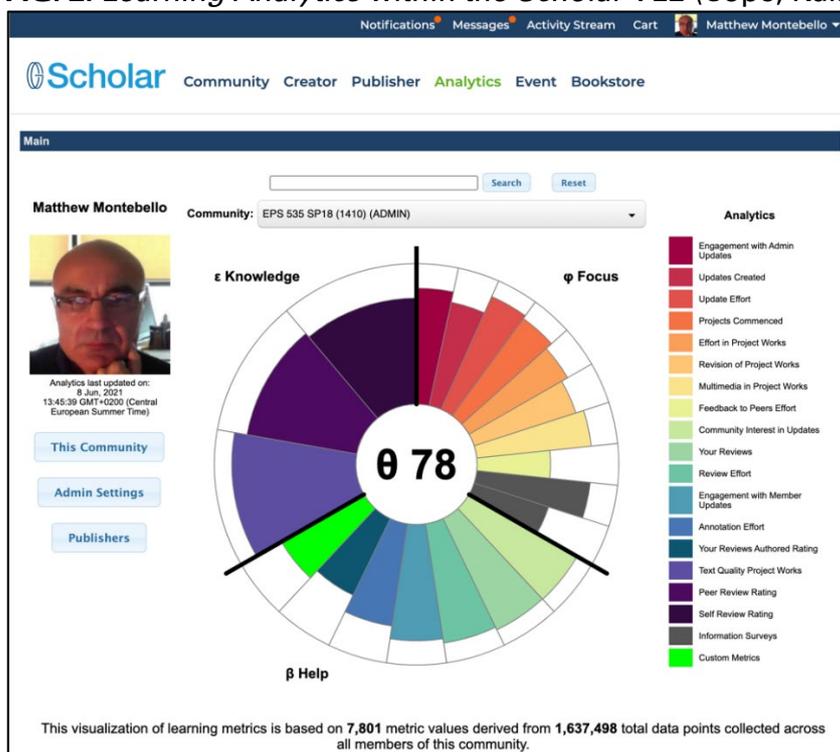
Introduction

The adoption and application of artificially intelligent techniques to assist the effectiveness of e-learning within a higher education context has been verified and accepted by both the education (Montebello, 2018a) and computer science (Brusilovsky, Milla, 2007) domains. The technologies developed through Artificial Intelligence (AI) whereby electronic systems are able to learn and generate a unique learner profile have made it possible to personalise and improve online learning environments (Montebello, 2016b). The digital version of a learner's distinctive academic portfolio encapsulates specific information regarding that same learner including academic achievements, strengths and weaknesses, together with personal interests, needs and inclinations, as well as, dislikes, limitations and vulnerabilities (Montebello, 2014). Such personal attributes are partially explicitly declared by an online student on enrolling to a virtual learning environment (VLE), and in part generated by the learner while interacting with the same environment (Montebello, 2016a). The data that the learner's activity generates together with all the characteristic information that can contribute to the exclusive academic learner profile is collected by the VLE (Haniya et al., 2019), processed, and re-employed to customise the next online learning experience (Montebello, 2017b). Learning analytics refers to the opportunistic use of such data in an effort to optimise the learning process through the elevated learning environment (Montebello, 2018b). A higher frequency of interactions with the smart environment the superior and accurate is the learner profile as it continuously refines itself through an expedient cycle of data collection, information processing and profile re/generation (Mallia-Milanes, 2018). In this paper we present a number of matters that contribute to the above scenario while providing a detailed narration of how AI can contribute to the education domain on a number of counts to contribute to a smart education concept. We converge our attention towards the customisation of a VLE whereby we provide a walk-through of the smart learning environment we have created and employed with our undergraduate students (Montebello et al., 2018). This same smart VLE has evolved over time as novel machine learning techniques have been integrated including deep learning neural networks and explainable AI (Mallia-Milanes, Montebello, 2021).

The rest of the paper is organised as follows. The next section covers different aspects of A.I. as applied to higher education through the different initiatives we pursued, followed by a full walk-through of the Crowdsourcing technique employed in our intelligent Virtual Learning Environment (VLE) in the next section. The third section covers our take on how formative assessment can better assess learners' efforts through the application of technology. Finally, we bring all these factors together within a functional VLE as we present numerous recommendations and best practices through the favourable results achieved and the positive feedback provided by learners and educators.

are tackled in research papers, considering that such a smart physical environment provides ample space for personalising the learning process. Numerous intrinsic educational characteristics together conventional and recognised learning theories were investigated and brought together into a conceptual and pedagogy-neutral framework (Montebello, 2018). The second aspect is the social one (Montebello, 2018) that takes into consideration the social connotations of a traditional classroom where the dynamics of the student body and the educator have been scrutinised and integrated within the same ambient intelligent classroom. The final aspect within the Aml classroom is the technological aspect (Montebello, 2018) that is frequently the main theme when Aml is being considered. In an effort to comprehensibly cover all aspects the use of technology plays a pivotal role as it well established that technology-enhanced learning embellishes higher education. To point out that the technology aspect does not only include physical middleware that act as receptors and effectors, but also machine learning techniques required to process the collected data and generate a learner profile as part of the customisation process. The analysis of these three aspects guidelines and best practices that collectively contribute to the successful implementation of our ambient intelligent classroom (Montebello, 2019). Finally, the third instance where we apply AI within a learning environment is our deployed VLE, called Scholar (Cope, Kalantzis, 2013) that integrates seven e-learning affordances from the Cope and Kalantzis reflexive ideology (2013), namely, Ubiquitous learning, Active knowledge making, Multimodal meaning, Recursive feedback, Collaborative intelligence, Metacognition, and Differentiated learning.

FIG. 2. *Learning Analytics within the Scholar VLE* (Cope, Kalantzis, 2017)



The epistemological reasoning behind Scholar embraces Bloom's philosophy amongst which is the assumption that learners have the potential of reaching the required level of knowledge for a specific topic before progressing to the next, as long as they are given ample required time and the correct timely feedback. Of particular interest is the integration of learning analytics (ivi) within the AI-injected VLE, as shown in Fig. 2, that takes into account every data point generated by the individual learner to create a visual representation of the formative assessment accumulated over the course of the study programme (Haniya et al., 2019).

2. Crowdsourcing Supplementary Educational Content

The use of content extracted from social media together with contributions from online users as well as fellow students, like within a MOOC, provide additional content to the academic material within the learning environment. The supplementary educational content is specifically targeted to the unique interests and needs of the particular student thereby supporting the learner profile generation process. This practice continuously runs in the background of the smart VLE to refine and dynamically update the evolving portfolio while contributing to the formative assessment as shown in Fig. 2 and will be further expanded in the next section. The crowdsourcing element is also exploited through the Web 2.0 applications (Camilleri, Montebello, 2007) available online and easily integrated as part of the VLE (Camilleri, Montebello, 2007). Furthermore, the social media look-and-feel of the Scholar environments banks on the social elements that such tools afford, namely, connecting, communicating, collaborating, and learning collectively (Montebello et al., 2018).

3. Smart Assessment

An essential part of the smart education process achieved through the employment of A.I. is the assessment component that is considered a very important component of a VLE that students tend to gravitate towards. As shown in Fig. 2 and mentioned in the previous section the formative nature of assessment within the smart learning environment provides a natural and intuitive way of how to measure the learners' progress while keeping track, through learning analytics, of all the interactions, contributions and data-generation actions. Our epistemological reasoning at the basis of our smart assessment is non-summative and is based on seven attributes that in our opinion will characterise the future of successful assessment and which we also integrate within our smart VLE. Smart assessment attempts to address the limitations of the standard model whereby the focus is on long-term

memory where procedural learning encourages narrow, cognitive range of learning. This leads educators to request strange and unrealistic artefacts that they then have to mark and assess, based on a limited sampling technique that is mainly highly-mediated inferences. Numerous learners do not undergo a positive experience when time-limited unnatural summative assessments are administered that tend to isolate learners in individual tasks that require retrospective and judgmental undertakings that are unparalleled in our lives. To counteract this trend, we base our smart formative assessment of seven pillars briefly described in the following seven subsections.

3.1. Embedded Assessment

The concept of not sampling but continuously assessing throughout the learning process is something we believe in and integrate within Scholar as we provide an unmediated access to learning processes and artefacts whereby students can employ any medium of choice to express themselves, as will be discussed later on. Small chunks of data gathered along the way contribute to big data as can clearly be evidenced at the bottom of Fig. 2. The embedded assessment component can also be evidenced in the way we attempt to blur the distinctive division of where instruction ends and assessment starts as every semantically-legible data-point generated by the learner contributes to the overall performance of that same learner (Cope, Kalantzis, 2016). This is also possible through the posting, liking, sharing, as well as providing recursive feedback to their peers but also with other members within their learning community. All this reinforces our reflexive pedagogy adopted upon which our learning environment is grounded on rather being didactic or constructivist.

3.2. Distributed Assessment

This attribute directly subscribes to the arguments put forward in Section 2 whereby learners are encouraged to collaborate and join their diverse skills and intelligence within the same artefact while extracting different learning experiences. The idea of supporting learning ecologies where mutual partnerships are fostered thereby creating effective and meaningful learning rather than a hierarchical one that pushes us back to the standard assessment model (Montebello et al., 2018).

3.3. Object-Oriented Assessment

The assessable artefact should reflect an active knowledge making process irrespective of the medium chosen that is completely the contrary of what the standard individual cognitive model traditional requires. Smart assessment is about capturing some kind of evidence of cognition where the knowledge artefact could be a presentation, a video, a comic strip, or an audio piece of work. Multimodality has shown to be an incredible technique to represent knowledge by students depending

on what they are seeking to deliver and in which optimal way they deem to do it (Haniya et al., 2019).

3.4. Assessing Epistemic Performance

The task of assessment is not to measure a student's memory capabilities or the procedures of doing so, but it is the process of measuring the performance of a student as evidence of knowledge making both as the method employed as well as the end product. Additionally, we consider that deep learning is possible through proper pedagogical channel as critical thinking, creative thinking, and design thinking have been shown to improve through the Scholar learning environment (Montebello et al., 2018; Haniya et al., 2018). Furthermore, metacognitive skills including disciplinary thinking and theoretical work for part of the epistemic performance that does not focus only on content work (McMichael et al., 2019).

3.5. Assessing Performativity

The performance means much more whether a learner has mastered the material being taught rather than assigning a normal task to all in order to assess the individual. In such instance the chances of detecting traces of thinking and acting process are far greater whereby each unique student can perform in his or her unique way to demonstrate mastery learning as shown in one of our studies (Montebell et al., 2018).

3.6. Assessing Participation

We work as part of a team and assessing such a natural operation contributes to the successful overall learning process. Working within a group or collaborating to achieve a common goal is a great example where the individual qualities of each member can contribute to the collective intelligence. The level of the individual contribution together with the skill to form part of a team is an essential quality within society which, as educators, strive to instil into our students. The distributed cognition amongst a group of learners together with the associated knowledge each can produce in any form provides a good indicator of the individual student's self-efficacy, responsibility, and control (Montebello et al., 2018).

3.7. Differential Assessment

The final pillar of smart assessment goes hand in hand with customised education whereby non-standardized methods should be the norm that do not necessarily compare students to each other, or assume that they have to be the same to be equal. The concept of productive diversity in assessment and learning should be so strong to allow different students to be assessed differently depending on their individual differences, yet still assessing whether material mastery has been achieved.

4. A VLE with a difference

Integrating the seven e-learning affordances highlighted in Section 1 together with the smart assessment attributes described in the previous section resulted in a bespoke VLE that enabled us to realise our philosophical stance. The social network-like virtual environment, shown in Fig. 3, now incorporates community of learners and educators instead of classes with functionalities that not only enable members to share, like and provide feedback, but also post updates of new knowledge generated content through the rich editing interface provided that empowers the user in integrating audio, video, images, text, hyperlinks, files, as well as TeX generated content. Other facilities include sharing files within the community, while the interface provides logs of recent activities and a continuous activity stream at the centre of the VLE. The analytics described in Section 1 are easily accessible from the Analytics tab, while additional functionality of creating, publishing and holding events are also a tab away. The bookstore provides a knowledge base of text, video and audio resources available for all the communities while every registered user has the possibility to request and join any ongoing community once granted permission by the community administrator. Worth mentioning that, similar to a social network, any user can cross-reference any other registered community member through a drop down menu as soon as the author of a post starts a new word with the '@' sign.

FIG. 3. *The Scholar VLE* (Cope, Kalantzis, 2013)

The screenshot displays the Scholar VLE interface. At the top, there are navigation links for Notifications, Messages, Activity Stream, and Cart, along with a user profile for Matthew Montebello. The main navigation bar includes Scholar Community, Creator, Publisher, Analytics, Event, and Bookstore. The central 'Activity Stream' section shows a 'New Update' by a user named Rich, posted 7 days ago, and several 'Final Survey' updates by Zuzanna Goldyn from January 26, 2021. On the left, there is a featured study-unit titled 'The Promise of AI in Education' with a description and a list of community admins and members. On the right, the 'Recent Activity' section lists various user actions like starring updates and commenting, and a 'SHARES (4)' section lists shared documents like 'The Ambient Intelligent Clas...', 'AI in Education - textbook', 'Intelligence Unleashed', and 'AI-Injected e-Learning'.

Conclusion

The development of this smart VLE has brought together a number of our efforts over the years after having accumulated a variety of case-studies whereby university students provided the required data to assist in the evaluation of the educational environment. We strongly recommend that the employed VLE should always ensure to not only attract students and feel comfortable to spend time and contribute, but also to retain educators in employing the different capabilities made available to easily encompass all the tasks they need to accomplish within their class. The employment of a specific VLE should not be simply to make use of an online environment that enables learners and educators to asynchronously communicate, but should embody the pedagogical philosophy followed whereby learning theories and e-learning best practices are manifested within the VLE look-and-feel, the operative functionalities, and the educational opportunities that enable both learners and educators express themselves and achieve their respective goals. The favourable results we received and the positive feedback provided by the smart VLE users have enabled us to take it further and achieve remarkable results. All this provides us with enormous encouragement to delve further into this interesting and exciting area of research as we seek to continue to improve e-learning effectiveness and enhance the online learning experience. The future of smart education depends entirely on further progress within the AI domain as new and efficient intelligent techniques provide additional value and potentially characterise the future of online education and e-learning.

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The Digital Literacy We Need in Classrooms: Teachers' Online Cooperation as a Source of Professional Culture

A Training Project for Teachers through the Creation of a Community of Practices. The Case Study of a School in Rome

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ABSTRACT: *An ongoing experimental project for in-service teachers' training, carried out for the first time by the Istituto Comprensivo Simonetta Salacone in Rome, during the 2019/2020 school year. The project is based on the strong belief that a permanent teacher's training is of paramount importance for the schooling system, since it is directly connected to the quality of education. The Institute has developed a training proposal entitled «Good Practices. A Community of practices for teacher's training». This proposal aimed at enhancing the existing collegial moments in the school calendar, by fostering moments of exchange with the goal to bring out, make explicit and enhance the knowledge of teachers, through the exchange of practices and theoretical reflection. Teachers' knowledge is configured as a continuous active and creative process, which is built on daily experience and implies a fair degree of experimentation. If such knowledge does not go through a process of reflection and sharing, it risks remaining unsurfaced at a level of awareness, in one's own way of working or to remain in the personal toolbox of individual experience. This challenge can be overcome by developing training contexts in the school, integrating contributions from official research, cooperative knowledge-building activities, informal storytelling contexts, and moments of meaningful reflection and re-elaboration of experiences.*

KEYWORDS: *Teachers' Training, Community of Practice, Lifelong Learning, Digital Archive.*

Introduction

This paper intends to focus on an ongoing experimental project for in-service teachers' training, carried out for the first time by the *Istituto Comprensivo Simonetta Salacone* in Rome, during the 2019/2020 school year. Before giving some theoretical references and describing how the project developed, it is important to give some background information about the *Istituto Comprensivo Statale Simonetta Salacone*.

The Institute was named after the historic school director Simonetta Salcone, who ran it from 1983 – when it was *126° Circolo Didattico* – to 2010 – becoming *Istituto Comprensivo via Ferraironi*.

In 2018, the Lazio School Office renamed the *Istituto Comprensivo Statale of via Ferraironi* after Simonetta Salcone, in recognition of her role as a leading figure in the world of education in Rome. The official motivation reads: «she distinguished for her commitment, operativity, research and great cultural and pedagogical contribution to the service of the Italian public school and Democracy» (press release, 2018). Simonetta Salcone has always been committed to build a school of all and for all.

Simonetta Salcone, together with her school community, on the eastern suburbs of the city called Centocelle, has fought many battles in defence of State School's values, such as: accessibility, equity, secularity, against educational poverty and exclusion, building alliances and bridges in a marginalized area.

Her most important merit is having been able to create a strong sense of community and belonging over the years. A school community of educational innovation and the search for equity and social solidarity was born out of the historic season of cultural ferment outside and inside the school world which shaped that experience and years.

But even before that, in the Seventies, this school was one of the first to start experimenting with new educational practices, supervision methodologies for teachers and implementing the full-time school model, a fundamental change towards democratic schools. During an interview realized in those years a teacher describes how her school was already working with laboratories and experimentations:

The teachers were there day and night. Because the director, in a very intelligent way, had organized a sort of periodic supervision with a psychologist, who coordinated enlarged collective groups and sometimes plenary sessions.

So there was also this part of verification, comparison and reasoning. It was something that was being experimented in a few schools in Italy. The teachers were at school 12 hours a day, to meet with the psychologist and to participate in the assemblies, in this continuous collective dissection, thinking about what was happening, how to do it, how not to do it.

It also served to support us, because it was quite a complex situation and the children were difficult.

The director had funds from the experiment available for training and materials, unlike other schools. He had invested some of these funds so that there would be a person to guide, support and welcome the teachers who were involved in this project.

We also created the coordination of the full-time schools, where the teachers of the experiments met. Later on, full-time education was set up organically by those who wanted it, with meals and a timetable until 4.30 p.m., but for a long time we travelled on coordinations, which were always clashes, confrontations, discussions, reasoning.

It is clear that everyone was trying to stay there, because there was a very strong additional cultural, intellectual and emotional movement. A new organisational model was being experimented with and the managers, together with the teaching staff, had the possibility of introducing a whole model of methodologies and internal organisation. Moreover, at that time, the Movimento di Cooperazione Educativa was very strong in the school. Many teachers were members of the movement, they did initiatives, training and participated in these experiments. It was an attempt to get the good practices of the MCE into the school, to go beyond rigid programmes and use a whole series of more experiential activities (Pallotta, 2016).

From this, as from many other stories, it is evident that there was a widespread interest from many teachers in active learning and educational research: year after year, many teachers have perfected their way of working by learning from others, through exchange, observation and discussion.

Today, even though that generation of teachers have paved the way to a new model of teacher formed mainly at university and through training courses, and even though the cultural, pedagogical and political context has changed, a widespread approach to active, workshop-based teaching remains in many classrooms in our Institute. But this knowledge is gradually being lost over time.

How the project started

In this context, in 2019 a group of teachers – of old and new generation – emerged with the need to identify new areas in which to build a shared school project. The project aimed at enhancing the educational offer, starting from common objectives, with a view to foster continuity between the different grades and communication between the various schools of the Institute.

But also, and above all, a request was made to implement teacher training through the exchange and sharing of good practices.

The group presented this request to the *Collegio Docenti* (the assembly of the entire school's teaching community) with the goal of drafting a substantial project for the school to support cooperation and exchange between teachers.

From this point on, the main effort relied on finding a way to enhance and structure the teachers' experience in a formal pathway, as inclusive as possible.

The underlying conviction was that *permanent teacher's training* is of paramount importance for the schooling system since it is directly connected to the quality of education.

On this basis, the working group – which called itself «good practices» – drew up a training proposal for the whole school entitled *Good*

Practices. A Community of practices for teacher's training, aimed at enhancing the existing collegial moments in the school calendar, by fostering moments of exchange with the goal to bring out, make explicit and enhance the knowledge of teachers, through the exchange of practices and theoretical reflection.

In the Italian school system there are some hours, called «collegial activities», which teachers are required to participate in, dedicated to work's organization and to follow-up on what is necessary for school life. There are 40 hours for participation in the *Collegio Docenti* and its articulations and another 40 hours for participation in class, interclass and intersection councils.

The *Collegio Docenti* is also responsible for working groups or study commissions, known as *Dipartimenti*, whose important function is to formulate and support teaching and planning; this structure has the task of fostering greater connection between the various thematic areas and facilitating the implementation of common educational planning.

Often, meetings or working dates on the annual calendar become bureaucratic procedures, the teachers are not very interested and the lack of coordination disperses the interest in planning together. However, if collegial activities are well structured, they can be an excellent opportunity for study, research and participation.

The proposal, therefore, was to use part of the 40 hours to structure an enhancement of the teaching programme in a cooperative form, i.e. to create opportunities for the exchange of good practices that have been already implemented or are to be tested in everyday's school life. The proposal of the «good practices» group was built on three main axes:

- an interest in questioning one's own teaching experience and the value and meaning it has within the school community to which it belongs;
- the need to update and renew methodologies and tools over the years;
- the need to share sometimes difficult experiences that can find adequate solutions in comparison with others.

The demonstration that teachers' professional training is institutionally considered a crucial point for the improvement of the whole school system can be found in the latest school reform (L. 107/2015), which reintroduces the mandatory in-service training, with the Teacher Training Plan (DM 797/2016).

Is described on the MIUR (Ministry of Education, University and Research) website as follows:

Law 107 of 2015 defines the training of school staff as «mandatory, permanent and strategic» and recognises it as an opportunity for effective professional development and growth, for a renewed social credibility of contribution to innovation and qualification of the educational system.

However, the issue has mostly been approached from the perspective of formal training – initial and in-service – which, however, is not sufficiently able to gather and enhance the enormous experiential wealth of teachers, which unfolds daily in classrooms.

If we are to explore the nature of teachers' knowledge(s) and the dynamics at play within the school organisation, another type of training plays a considerable role: *informal training*.

Teachers work mostly alone, in contact with an ever-changing variety of situations and 'cases', with which they are called to enter into a continuous reflective dialogue, through an interactive involvement with the problems and challenges that emerge in practice.

Gradually they develop a set of skills and strategies, which over time go on to compose mental schemes that are progressively more complex and articulated, strengthening their personal practice, while admitting a certain margin for improvisation and adjustment by trial and error.

Teachers' knowledge is therefore configured as a continuous active and creative process, which is built up through daily experience and implies a fair degree of experimentation. If such knowledge does not go through a process of reflection and sharing, it risks to remain unsurfaced at a level of awareness, in one's own way of working or to remain in the personal toolbox of individual experience.

Such knowledge – experiential, situated and emerging from practice – pertains to what is defined as the *tacit dimension* (Polanyi, 1979). If it does not go through a process of reflection and sharing, it risks not to emerge at a level of awareness of one's way of working or to remain in the personal baggage of the individual teacher. This is because the tacit dimension is represented by embedded competences related to know-how and rooted in routines.

The practical knowledge of educating therefore emerges as teachers develop and use their skills of research and reflection based on experience.

This challenge can be overcome by developing *training contexts* in the school integrating contributions from official research, cooperative knowledge-building activities, informal storytelling contexts and moments of meaningful reflection and re-elaboration of experiences. In this way, the school becomes a real research community, in which the resources of individual teachers become relevant to the whole Institute and where good practice and innovation can become shared knowledge.

In this perspective, an appropriate and effective tool is represented by what are called communities of practice: «groups of people who share a concern or passion for something they do and learn to do it better as they interact on a regular basis» (Wenger, 2006).

Communities and learning communities are therefore social groups with the aim of producing organised knowledge, to which each member can have access and in which individuals aim at continuous learning through awareness of their own knowledge and that of others.

Communities of practice thus defined are capable of producing learning, constructing meanings and developing social aspects of identity.

Collaboration is considered as the core of learning, based on sharing experiences, identifying best practices and helping each other to deal with everyday problems.

Reflection is exercised on educational practice and on the thoughts that lead to pedagogical decisions, allowing to describe the theories that underlie practice, to go back to the intuitions that tacitly shape action, to identify teachers' beliefs about their own ways of dealing with problems, to analyze the routines that make up the work and, finally, to dwell on unforeseen situations in relation to the planned educational itinerary.

The school, as a learning environment, can hardly not be recognized and experienced as a social community, not only of pupils but also of different professionals. It is therefore an effective context for experimenting with communities of practice.

Steps for building a community of practices at school

The challenge posed by this project is for the school to become a real place of pedagogical research, processing the daily craftwork in the classroom.

TAB. 1. *Steps for building a community of practices at school*

	<i>WHAT</i>	<i>HOW</i>
1	Identify the thematic field or reason for learning that unites members	Project design and identification of educational areas
2	Launching the community	Sharing and approving the project
3	Launching spaces and moments for knowledge sharing	Scheduling of a meetings' calendar during the school year
4	Recognise and empower the different «actors» in the community	Collection of various educational proposals through applications
5	Building connections between community members	Construction of digital sharing environments
6	Carrying out documentation activities	Collecting all materials in a shared multimedia archive
7	Ensuring continuity	Evaluation of final results towards the replicability of the project

The first year

The project began in the school year 2019/2020 with the organisation of several workshops in which some of the Institute's teachers presented and shared their work.

All teachers were asked to submit voluntary applications to present their own activity or working method. Some teachers, individually or in pairs, agreed to participate and these were the 9 workshops they proposed:

- Autism, teaching methodologies and techniques
- Italian L2¹, teaching methodologies and techniques
- Mathematics with recycled objects
- «The footprint», storytelling and inclusion
- Chess as educational tool
- Collective writing
- Theater in primary school
- Mathematics between the end of primary school and secondary school
- *The invisible cities*, a storytelling from Calvino's book

Unfortunately, the project had to be interrupted due to the schools' closure imposed by the COVID-19 emergency in March 2020. It was therefore necessary to stop and think together on how to adjust and re-adapt our project in a completely changed setting, being aware that all our previous work constituted the basis on which we could jointly build. The objectives we initially set led to some questions: what new tools do we need to continue sharing? How can we continue to share if we cannot meet each other? The digital tools seemed the only answer and the better way to explore and navigate this unprecedented challenge.

We started to work on the creation of a *digital archive* of significant teaching experiences and projects carried out during the on-line distance learning period. An internal open archive which all the teachers could contribute to build, in which everyone could find useful ideas and through which they could get in touch for possible collaborations. The archive was also a way to value, recognise and give dignity to the many didactic experimentations created during the distance learning period.

We chose to build the archive with Google Sites, as the Institute had joined the Google Suite package to facilitate distance learning, since the school's closure. All the teachers therefore, had an institutional account and they were learning how to manage digital tools such as Drive, Documents and Presentations.

¹ Italian learning as a second language (L2), as a non-mother tongue learned in Italy. It differs from «foreign language», that is a non-mother tongue learnt in one's country of origin. For example, Italian learning in Italy for non-Italian speaking children is considered «L2», while English learning in Italy is considered a «foreign language».

Again all teachers were asked to present and share their activities, this time by sending multimedia materials: texts, videos, photos, presentations.

It was decided that the digital archive would be a dedicated space for the school's teachers only, both to protect the privacy of the children in photos and videos and to avoid fostering a showcase and competitive atmosphere under the gaze of the school's families.

We defined some didactic areas within which to catalogue the material that came in and the guidelines for choosing activities and projects to be published:

- What do we mean by good practice?
- What idea of school are we referring to?

The materials to be submitted should respond to the following guidelines:

Activities

- inclusive: effectively including diversity, fragility and needs of all children, boys and girls
- interdisciplinary
- including different classes, parallel and/or vertical
- drawn up on the basis of an analysis and observation of the needs arising in the context

Methodology

- including a variety of languages to enhance the different characteristics of children
- active construction of knowledge: group discussion, creative elaboration of materials, sharing of works and experiences created and proposed by the children
- cooperative learning
- reality tasks
- peer tutoring
- co-planning between teachers, children and other participants in the educational relationship (parents, educators, external experts, etc.)
- self-evaluation

The second year

In the following year, the proposal was reshaped according to the organizational and educational challenges of the context: the digital integrative learning, online distance learning systems and new digital tools; the introduction of a new discipline, Civic Education, in the

curriculum; the national reform of the Evaluation System for Primary School².

So the Good Practices group has decided to tackle these challenges, coordinating with some of the bodies already existing in the school and involved on these axes: the Departments (one of the collegial moments foreseen by the Annual Plan of Activities with the function of supporting the educational planning), the Digital Team and the Civic Education Commission.

We organized the project in order to involve teachers in a process of educational planning and training. We established 7 working groups within the Departments based on: the two main areas, linguistic-anthropological and mathematical-scientific area, the two same areas developed in the digital context and the 3 major school projects: *the youth council, outdoor education, radio and newspaper*.

A calendar was established and defined around four main moments:

1. *Didactic planning* (December, 2019), where each group planned some activities for the year and identified teachers' training needs to implement them.
2. *Training* (February, 2020), a training session for each group, led by resources from inside or outside the school (some trainers were our school teachers).
3. *Experimentation* (January-May 2020), teachers put into practice in classrooms what they have planned and what they have learned in trainings
4. *Feedback* (June, 2020), the following guiding questions were shared:
 - What teaching actions have been carried out in your classes, according to the planning of the first Department and the training of the second department?
 - If what was planned in the first Department was not realised, what did not make it possible? What obstacles were there?
 - Have teams been established, in order to jointly work on a theme, an area or a methodology?

Conclusion

From the final reports of the groups that met during the three departmental meetings, a variety of paths and projects emerged,

² «From the school year 2020/2021, periodic and final assessment of learning is expressed, for each of the study subjects envisaged by the Indicazioni Nazionali, including the cross-curricular teaching of civic education, by a descriptive judgement in the assessment document, with a view to formatively assessing and enhancing the improvement of learning. The descriptive judgements refer to the objectives to be assessed as defined in the school curriculum and are related to different levels of learning» (MIUR, 2020)

coherent with the initial planning, as well as numerous proposals requesting to extend the educational offer of our school and improve our way of working together as teachers.

Numerous classes have been involved in various forms of outdoor education. The garden has been used as a space for educational activities in contact with nature; the conditions created by the pandemic emergency have proved to be an opportunity to introduce a new methodology which has been very well received. Various projects have been carried out by several classes, focusing on the use of outdoor space as a learning environment, following the three axes: making more flexible the space for the well-being of all, building a partnership with parents through sharing and collaboration, consider the neighbourhood as a classroom and make it a learning setting. The spaces in the area have become places to explore and study, as well as simple environments to host planned activities.

The need to structure the digital integrative learning led several teachers to experiment with different technological tools, such as the use of different software, PCs, smart TVs and interactive whiteboards, to facilitate participation and interaction among pupils: experiences that turned out to be more inclusive than previously thought. These tools also seemed useful in allowing greater individualisation of interventions and gave teachers an awareness of their 'strength' and a desire to understand more. Some teachers, however, reported the lack of mastery of the tools and the need for more in-depth training in their use as a limitation in carrying out the activities.

Some teachers have started to experiment with the Freinet Work Plan technique in their classes, especially in the language field, setting up a work and research group.

In the field of mathematics, several scientific courses were carried out with the support of external associations, which involved both secondary school classes, through specific projects, and many teachers, through training sessions. Groups of teachers were formed to work together on the theme of «Web addiction».

The Youth Council, Radio and newspaper projects were implemented and improved, despite the limits imposed by the pandemic, by introducing several methodological experiments and activating some external collaborations.

In general, many situations were reported in which there was a sharing between teachers, an exchange of ideas and methodological approaches, a desire to try, to set out on the road to new techniques and experiments.

Among the most significant obstacles encountered were a sense of inadequacy with regard to the method and technical tools, and a lack of time. Above all, because much of the school time this year was used to make up for the discomfort experienced by the boys and girls during lockdown measures.

An additional shortcoming reported by several groups is related to documentation. Many teachers organise interesting, innovative activities,

but fail to document what they do. There was some discussion about the meaning of documentation: in order to share, it is necessary to have materials that tell the story, so how and when is documentation done? Who do you document for? Why do you document?

The proposal emerged to find and develop agile tools, accessible and common to all: descriptive presentation sheets, adding significant experiences carried out during the year to the end-of-year report, uploading programmes and assessment tests on our website, peer-to-peer training between teachers to activate paths of practices' exchange, making a Q&A section dedicated to methodological and teaching challenges: *how do I do...?*

Finally, the need to plan an action research project to build a pedagogical orientation was also mentioned. A change of perspective seems necessary to ensure that planning becomes a fundamental moment for building an active school.

However, the project is still in progress and there are several issues to be addressed in order to refine it, make it sustainable and replicable:

- *What funds for training in schools?*

Funds for training are allocated by the Ministry to the *Training Polo schools (MIUR, 2020)*, which are responsible for organising various types of courses. A small part of the funds goes to individual schools, depending on the number of staff and students. How is it possible to plan training that is truly representative of teachers' needs, with a centralised management of funds?

- *How to enhance teachers' digital skills?*

How to build a digital sharing space for materials in different formats, if teachers are not familiar with these types of tools? What kind of training teachers' need to?

- *How to improve teachers' habit of documenting their activities?*

In order to tell others what has been done, it is necessary to have documenting materials of the work done daily in classrooms.

It is therefore essential to spread the practice of documenting teaching activities, through various tools. Documentation is also very useful for the evaluation of learning and self-assessment of one's own work.

- *How to build a teachers' cooperation culture in the school?*

How to create a cooperation, collaboration, exchange and trust environment, a generous interest in showing one's own way of working, a sincere interest in the work of others and the ability to listen in order to plan learning paths together?

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What the Hell Do I Do with the Moon? A Diachronic Learning Path of Reading and Interpretation, between Literature, Art and Science

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ABSTRACT: *In March 2020 I tried to overcome the difficulties related to distance learning and the lack of communication with colleagues, thinking of developing a cue provided in the fall by the first meetings of a laboratory of the Accademia dei Lincei, which intended to deepen a comparison between the different representations of the fantastic. I therefore chose to develop the theme of the «moon» with a class of mine from the 4th art school, both for the obvious connections with the authors included in the fourth year's program (above all Galilei and Leopardi), and for the universality and breadth of the theme; which allowed us to range in a diachronic and interdisciplinary perspective, with an opening to the life experiences and imagination of students who are young artists, with the aim of developing their skills of interpretation and connection. I think I also tried to alleviate the anxiety that oppressed us, providing the students with a learning opportunity that would take us away from the oppressive contingency for a few hours, even though the references to the reality we were living were always strong. In the first phase of the work during the meetings on Google Meet, both I and the students presented freely chosen material related to the theme of the moon: as far as I was concerned, I proposed almost exclusively literary texts, while the students had the opportunity to range also in the field of visual arts and music, with a particular openness to their own productions. In fact, they ranged from Lucretius to Patrizia Cavalli, passing through Ariosto, Giordano Bruno and Marinetti, from Bowie to Gianni Togni, from Meliès to Andy Warhol. The material was made available on Google Classroom and presented through the sharing of the screen, those who made the proposal described it and talked about it trying to dwell on their impressions, the questions raised and the connections; then a space for discussion was opened, the students were invited to highlight the relationships and differences between what was presented, looking for themes that persist, lines of continuity and difference between different eras, cultures and disciplines. In the second part of the course, I asked the students to create, individually or in groups, a paper that developed an argument about one of the visions highlighted, using the documents analyzed in class. They could choose among different formats: an expositive-argumentative text, a slide presentation, a video of a virtual tour through the different works, an audio recording of an impossible dialogue between some of the artists analyzed. I moreover believe that this interdisciplinary perspective that prompts reflection on code-switching in relation to meaning and message is particularly important for students in the high school of art*

KEYWORDS: *Digital humanities for teaching, Teacher's self-organisation, teacher's self-training, collaborative writing, virtual classroom*

Introduction

Aidan Chambers, storyteller and reading education expert, states that what we read always has an effect on us and that the teacher therefore has the responsibility of choosing what students read in school.

Literature greatly influences the way of being of those who use it, there are numerous studies that analyze the effects of these activities on people and cognitive science confirms the importance of reading and writing. Reading, in fact, leads to the discovery of different worlds, experiences and, above all, is an effort to understand the other, so it is important to create a regular practice, a continuous exercise of reading and writing. The school consequently becomes the place where to implement the habit of this practice so that students become autonomous in the reading choices that will be significant in their lives. In order to facilitate and structure this effort, it is necessary to help students approach literature through a choice of texts that are accessible and close to their sensibilities and through an engaging work of analysis and shared interpretation.

All this clashes with the reality of the teaching of literature in Italian schools, which is still closely anchored to the idea of imparting a standardized interpretation of authors and some specific texts linked to the traditional canon of literature that starts in the Middle Ages and barely reaches the second post-war period.

In reality, this idea in the Italian school regulations is partly overcome, very clearly in the «Directions for professional and technical schools» but, if we look closely, we can also identify some openings in the «Guidelines for Licei» which are much more prescriptive with respect to authors and refer several times to the historical path of Italian literature, but where we also read: «to describe the literary panorama will be other authors and texts, in addition to those explicitly mentioned, chosen autonomously by the teacher, by reason of the paths that he or she will deem most profitable to emphasize in particular and the specificity of the individual high school addresses.»

The problem is, in any case, very pressing in the last three-year period of high school where the tradition of teaching literature is more deeply rooted.

Despite this, there are teachers in high schools who feel an urgent need to unhinge the literary canon and overcome the constraints linked to the history of literature. Therefore, with the objective of creating a community of readers in the classroom who can develop the competence of critical interpretation, autonomous and aware, they try to make choices and implement strategies that involve working on the intercode that takes into account the specific characteristics of the students.

Given these premises, it is clear that the textbook is an obsolete tool for this type of teaching, so teachers have a new need for a repository where to find and share, with students and other teachers, material of various kinds, especially texts, but also images and videos. From this point of view, self-education and sharing of experiences among teachers

become fundamental, as do issues related to the accessibility of books, their cost, and the damage to students' health.

In recent months, the intense adoption of distance learning has highlighted some issues but has also massively accelerated some processes.

1. Dance and didactics

Teacher self-training involves the possibility of adopting models that come from a wide variety of experiences that are then adapted to specific teaching situations.

A very significant part of my training and life experience took place at the Folkwangschule of Essen in Germany, a contemporary dance school strongly linked to the artistic experience of Pina Bausch. In that context I learned many things related to improvisation and artistic creation that in some way are very useful to me in my work as a teacher of Italian and history. The fundamental concept is the sharing of authorial responsibility, the performers provide their creative material, not necessarily movement, which is then organized by the director or choreographer.

The other central idea is that the performance is not the final moment but only a step in the creative process, which is in fact an uninterrupted flow: the work is not so much focused on the product as on the process.

These were the fundamental aspects of my work and that of others on live performance in the 1990s and early 2000s, and through a path that, after all, is not so convoluted, they have become part of my work as a teacher of Italian and history and often help me to overcome the constraints of a traditional structure of the transmission of knowledge that, after all, is also part of my training. And it was probably that artistic experience and that working habit that opened the way for me to all that pedagogical thinking that puts the student at the center, an active protagonist in the construction of his own learning, from Dewey to the recent discovery of the Reading Writing Workshop.

Finding points of contact between the artistic experience and the teaching experience is instrumental in experimenting with the modalities of one in the other, in researching and exploring new possibilities.

2. Moon and lockdown

In the 2019/20 school year together with a class of mine from the 4th art school with plastic/pictorial address, I concretized these premises with a project of a path focused on the study of how different authors have dealt with the theme of the moon, a broad and universal subject that offers the possibility to work on different imaginaries and representations of the fantastic in a diachronic sense, as well as being a topic addressed in a

significant way by authors that I had included in the literature programming.

The work develops a cue provided by the very first meetings of the workshop conducted by Prof. Conte and Prof. Licoccia, within the course of teaching literature «Interacting with literary texts, three paths of active literature» of the Accademia dei Lincei. A course that was then halted due to lockdown.

The unit was carried out in parallel with the in-depth study of the figure and works of Leopardi and in such a way as to broaden the view in a diachronic and interdisciplinary sense.

Part of the work involved the proposal of some literary texts chosen by the teacher, which would be read and analyzed in class, the students would be stimulated to highlight the common elements and differences, trying to extrapolate the themes that persist, hypothesizing the possible existence of universal elements, or at least very significant, in different eras, cultures and disciplines.

At the same time the students would have presented proposals on the theme of the moon, also expressed in other artistic forms different from literature, such as painting, sculpture, theater, cinema, music, but also their own productions, writings, drawings or other. The students' proposals would also be analyzed and discussed in class and compared with the rest of the material, trying to elaborate interpretations, connections and differences.

At the end of the work on the materials, the students, divided into groups, would have had to work on the realization of a work to be chosen among three different types of delivery:

- an expository/argumentative text
- a realization and oral exposition of a powerpoint presentation
- the realization of an audio of an interview/dialogue impossible between some of the authors of the texts analyzed
- a video of a virtual tour of an exhibition on the theme of the moon in literature and art.

Among the objectives of a project of this type are education in the expression of opinions and emotions, the development of the ability to use cultural and methodological tools to critically confront reality and express one's own personal vision of the world, but also the development of the ability to identify universal elements that characterize different eras and cultures.

Having noticed a certain difficulty on the part of the students in talking and writing about their projects and artistic works, I felt that the interdisciplinary perspective could also pursue the objective of making these high school art students reflect on what the change of code implies from the point of view of the message and could develop their ability to use language to describe their work as painters and sculptors. By comparing different materials, the students would reason about how different artistic languages express the same scope of meaning and would be prompted to think about what changes in code switching.

As I have already said, if the goal is to develop the skills of reading, interpretation and expression of a point of view, it is appropriate to adapt the proposals by going to a certain degree to meet the needs, tastes and sensibilities of the students.

Within days of the project's classroom presentation, however, the March 2020 lockdown began. We therefore found ourselves in the situation of having to adapt the work to the characteristics of distance learning, it was necessary to invent and learn quickly.

We could somehow say that there was a sort of multiplication of the original idea of the project: to the possibility of sharing and discussing material related to the moon, we added the possibility of doing it to solve everyone's problems, related to digital tools and technology.

3. Practical implementation and critical issues

I immediately realized that distance learning, of which I had only experience as a learner, required the strengthening of all the strategies that work on the involvement of students and that we had to completely abandon any residue of frontal teaching, especially in the moment of disorientation in which we found ourselves in those days. So I thought it might be effective to pursue that project on the moon that involved sharing, student proposals and shared interpretation.

Having our school fairly abruptly activated an institute Google suite, our meetings took place on Google meet, the material we analyzed together was uploaded by me and the students on Google classroom and made available to all, I also often used padlets to carry on a reflection together in written form.

The students have proposed materials of all kinds from music to movies, from paintings to photos made by them as well as their own small texts. They ranged from Lucretius to Patrizia Cavalli, passing through Ariosto, Giordano Bruno and Marinetti, from Bowie to Verbena, passing through Gianni Togni and Lucio Dalla, from Meliès to Andy Warhol, from tarot cards to photos of the lunar eclipse.

This variety and availability convinced me that it was not necessary to give them directions on where to go to find material, provide lists of sites, reading recommendations, or anything else. Most likely, however, in a different class, with younger kids or with other characteristics I might have made a different choice.

After the phase of presentation and analysis of the materials, there were a couple of final meetings of recapitulation, synthesis, and schematization of what had been done, together we tried to elaborate a map of the five different imaginaries of the moon to which we thought we could relate the material studied:

1. The moon as a conquest, symbol of all the frontiers overcome by human science
2. The moon as a distant and wonderful place where things are different than on Earth

3. The changing moon, elusive metaphor of what man desires but cannot achieve
4. The romantic moon that integrates into the landscape and creates an atmosphere that corresponds to the artist's mood and sensitivity
5. The distant and indifferent moon, a cold and detached star that is not in tune with the pain of mankind.

At this point the students began to work on the works that some of them (not all) have delivered within a couple of weeks.

What follows is the transcript of the recording of the impossible dialogue between Galileo, Leopardi, Marinetti and Patrizia Cavalli made by one of the girls in the class:

Like every discovery over the millennia, the discovery of celestial bodies, and in particular the observation of the moon, has aroused interest in the world of science and has triggered just as many different emotions and sensations in the world of literature and art. Man, when faced with great things, can act in two ways: amazed and excited or indifferent. This contrast in viewpoints is evident in the consideration of the moon by scientists and writers chronologically distant from each other, specifically Galileo Galilei, Giacomo Leopardi, Patrizia Cavalli and Tommaso Marinetti.

Galileo Galilei: «Gentlemen, before the Church hears about this and wants to destroy me, I want to tell you about my discoveries: the moon, that beautiful star that we always see at night, is not as we have been told. I have seen it and studied it with my telescope, I have written a book that I have also illustrated with the various phases of the moon in which I talk about the surface of the moon, which is not flat, it has craters and mountains, a bit like the earth, it is not made of an incorruptible celestial material as the Church tells us. Then, thanks to earthly light and shadows, I understood the relative movement between the two celestial bodies and that the moon is a satellite of the earth and that they are also very similar; I am really enthusiastic about these discoveries».

Giacomo Leopardi: «Oh dear Galileo, I too have a very strong relationship with the moon, for me the moon is so romantic, it is a figure with whom I can confide in a tender way and which leads me to recall both joyful and painful occasions, which this naturally unhappy life has brought me. Despite this, she still makes me feel sweet sensations, a reminder of happiness; it is as if she were a blur in my imagination that leads me to melancholic feelings, I have dedicated verses to her, in particular a dialogue in which she confronts the earth that alas does not understand her, since a little like man, she sees in her her own figure and finds in herself a model and imposing centre for all. If I may say so, I feel akin to the moon, which gathers the pain of all, but no one can understand it, man is so selfish that sooner or later he will forget it.

Patrizia Cavalli: «Unfortunately I can't really understand your point of view, what do you do with a reality like the moon, which for me, and I think for the other writers and poets of this period, is now obsolete».

Giacomo Leopardi: «But how can an entity as beautiful and mysterious as my beloved moon be outdated. A place where one could find all the lost things of the earth as the great Ariosto used to say a safe haven for myself or a discovery as important as Mr Galileo used to say».

Patrizia Cavalli: «For me there's no longer this romanticism and this vision of the moon, the way I see it it's just a fat star that doesn't even have its own light, not even the craziest person could feel admiration for it, not even you past poets can think it important, it remains in the past with you».

Tommaso Marinetti: «Patrizia has a point, I am opposed to the great ones who wrote about this star in a beautiful and philosophical way, the future is near, the avant-garde is sweeping away the moonlight, man now has stronger and more useful lights than the moon, the moon may have links with water because of its tides, but now the light that man produces is more beautiful and illuminates more than moonlight. Our 300 electric moons will erase that stupid moonlight, green queen of love, you must go on.»

Galileo Galilei: «But how can you talk in this way about one of the most beautiful questionable discoveries of man.»

Giacomo Leopardi: «Galileo, unfortunately they don't fear it like our ancestors and they don't love it like we do. I had already guessed it, man believes that everything has been created and made available for him, so much so that they no longer notice something as beautiful as the moon».

Tools shared with the students during the project description phase were used for assessment:

- a rubric for observing moments of class discussion, which took into account participation, correctness of interventions and the ability to make connections
- a rubric for observing and evaluating the proposals made and their presentation, which took into account the congruity of the proposal, the originality, the correctness of the presentation and the ability to argue and contextualize it
- an evaluation grid for the papers

And so, the project was completed, however I became aware of some critical issues that remained partly open:

- Not all students have sufficient knowledge and familiarity with even trivial digital tools, so it is necessary that teachers not only possess digital skills, but above all that they are trained on how to teach these skills, as indeed is provided for by DigCompEdu, European Framework of digital skills of teachers and educators

- This kind of teaching requires an effort of imagination and creativity on the part of the teacher who has to invent the path. Creativity is stimulated by confrontation, dialogue and collaboration. It is necessary to increase situations of this kind in schools, to abandon the path of common tests and imposed learning units and to stimulate more the possibility of confrontation and planning together.
- A technical issue that we have not been able to resolve concerns the impossibility of creating small work groups on meet, which has resulted in the fact that the students have not worked together outside of meetings with me. Unfortunately, I was not able to stimulate them to work on shared documents and in fact all the papers were done by individual students.

4. Results and feedback

It is quite difficult to understand whether a single project of this kind has achieved the goals it set, which concern the acquisition of skills that are difficult to quantify, because its action is in addition to that of other activities done by the students and the results are evaluated over the long term.

In any case, having worked again this year (2020/21) with the same class, I was able to detect some changes that perhaps can be traced in a small part also to that work. In general, this year some of the students showed a greater curiosity about reading and a willingness to talk, sometimes even enthusiastically, about texts they had read. Then, during the presentation of their work at the final exam, it seemed to me that some students had developed a better ability to talk about their work, to explain the project, its evolution and the choices they had made, also in connection with what they had studied and read and with their life experience. With satisfaction, I also noticed that the figure and the poetry of Leopardi often returned to their thoughts and sensibility, despite having studied him the year before.

In any case, at the end of this year we talked about the moon project, I asked them some informal questions to try to activate the processes of metacognition and reflection on the work. The students, even though they were a bit embarrassed about their work, which they found unsatisfactory after a year, replied that the work had introduced them to the «magical world of connections». I observe that it would be opportune that the students enter into that «magical world» well before the fourth year of the secondary school, practically at the end of a thirteen-year course of schooling.

Conclusions

The realization of this project has involved the design, creation and provision of teaching materials; it is a demanding task, but, I believe, increasingly necessary. I think that this same project, any project of this kind, cannot be replicated in the same way with another class, the design will necessarily have to change to adapt to the characteristics of the new class. This means that the design effort of the teacher in the contemporary school is essential, the overcoming of the textbook does not consist in its replacement with ready to use material to be found on the net but in the sharing of practices, in the creation of platforms and repositories to draw on to find ideas and materials to be used to imagine and design a teaching that must still be customized to our students.

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Distance Collaborative Writing by Folding Origami

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ABSTRACT: *Distance in the educational environment has various forms and meanings, we feel distant in using the textbook, which does not restore that authenticity that is the basis of learning. Conversely, reading a text aloud in its entirety restores the closeness that creates community, encourages the use of language for all, and is the basis for writing workshop programming. The role of the teacher is to give voice to the ideas of the class, stimulate the imagination through reading, listen and mediate between the various instances, teach writing techniques through modelling and experiment with digital tools. The production of textual artefacts is a key to cooperation between students and the strategy is to build a class library from which to draw examples, mentors of original writing. The Rodari centenary celebrations were an opportunity for transdisciplinary planning across language, mathematics and geography, but above all towards the grammar of the imagination of the fabulous Gianni Rodari. We intersected reading, geometry with origami, rhymes and narrative invention, starting from the concept of the fantastic binomial in a first grade secondary school class. Playing with sustainability words, we came up with two distant words, gorilla and snack. What could possibly link a gorilla to a bagged snack? Using animal origami, we imagined together a story that could unite the pair in the distance of digital didactics due to quarantine. The choice fell on a collaborative platform such as Padlet to share the writing process we had started in presence. Everything started thanks to the stimulus of the integral reading made in class of Rodari's *Novelle scritte a macchina*, especially those stories set in places and landscapes close and familiar to us, the Tolfa mountains, Civitavecchia, the old Monterano, Oriolo Romano. Therefore, following the technique of collective writing, each member of the class group proposes characteristics of our characters that we cross. The preliminary lessons in synchrony, on the Jitsi platform, focus on the choice of themes and the construction of the plot, we put into practice the techniques of the writing workshop to outline the general map of our story, the aims, the main characters. We assigned a task (writing, revision, origami illustration, media), and proceeded with a series of research projects on the animals of the Monterano reserve, where our story is set, and with the help of our science and geography colleagues we deepen our knowledge of the environment. INDIRE, with *Piccole Scuole* and its *Spaesi* project gives us the opportunity for further narrative and methodological stimuli. In the weeks that follow, the timeline of our padlet is enriched with new chapters, fantastic characters and familiar scenarios from our area. The pair takes shape in an ecological tale about environmental sustainability and the incommunicability between the human and natural worlds, about the disconnect between childhood and adult life. We will present the results obtained and the final product, which is the result of transversal work between cooperating teachers.*

KEYWORDS: *Class library, Collaborative writing, Teacher's self training, Open Educational Resources*

Introduction: a methodological premise

Distance in the educational environment has various forms and meanings. Often we feel distant when using a textbook, the bearer of a fragmented view, channeled into a choice made a priori, the repository of a program that has been outdated for decades, or we perceive an absence of authenticity in performing a task that is not contextualized to the learning required. Conversely, reading a text aloud (Batini, 2018; Chambers, 2015; Poletti Riz, 2017; Golinelli, Minuto, 2019) in its entirety restores the closeness that creates community, fosters the use of language for all, and is the basis of a workshop writing process. Below, the production of textual artifacts is a key to student cooperation and the strategy from which to start involves building a classroom library from which to draw examples and mentors of original writing that provide food for thought and techniques to borrow. The workshop setting is born in the classroom layout but even before that in the choice to privilege modelling as a methodology of writing production.

1. A cross-curricular project between origami, the environment and writing

The year 2020 opened with celebrations for Rodari's centenary, and in our school, situated in Manziana (a small town in the province of Rome) this was the occasion for a transdisciplinary project involving the class in a journey through language, errors, mathematics and geography, but above all directing it towards the Grammar of Fantasy by the fabulous Gianni Rodari. We imagined a path that would intersect reading, geometry with origami, nursery rhymes and narrative invention, starting from the concept of the fantastic pair. The path started by playing with the words of sustainability (annual planning in line with the directives of Agenda 2030) and the choice fell on two distant words, gorilla and snack. We wondered what could possibly tie a gorilla to a plastic-bagged snack. So, folding origami in the shape of animals, we imagined together a story that could unite the pair in the distance of planes and meanings. To top it all off, a worldwide pandemic occurred in March 2020, forcing us to stay at home for three months with distance learning, from 7 March to the end of the school year. The emergency prompted us to immediately implement a digital didactic that could support learning and keep the social relationship alive. The choice fell on a collaborative platform, in

this case Padlet¹, to put together the writing process whose preliminary stages of reading and guided discussion we had started in presence. The class group, disorientated and isolated in their own homes due to the quarantine, needed a common environment that was appropriate to the demands, attractive but functional to our socio-educational objectives. It all started in the classroom, in presence, with the incentive of reading aloud Rodari's *Novelle scritte a macchina* (Rodari, 1977) typewritten novels in their entirety, especially those stories set in places and landscapes that are close and familiar to us, the Tolfa mountains, old Monterano, Oriolo. In those fantastic places, Rodari wrote about ecological narratives by making the Zerbini family's rubbish come alive, he narrated the adventures of a strange musician cowboy who hid by the banks of the Mignone, a river in our nature reserve. Tales that made us reflect on how an unlikely combination can give rise to an incredible story, close and distant at the same time. Therefore, following the technique of collective writing, we begin by asking each student in turn to imagine the characteristics of our characters and we cross them. The preliminary lessons in synchrony, on the Jitsi platform, were on the choice of themes and the construction of the plot, we put the writing workshop into practice to outline the general map of our story, the aim of the enterprise, the main characters, the development of the story. Assigned to each of us a task (writing, revision, illustration by means of origami, media according to our own abilities), we proceeded with a series of researches on the animals of the Monterano reserve, where we set our story, and with the help of our science and geography colleagues we deepened our knowledge of the environment. INDIRE, with Piccole Scuole and its *Spaes*² project, gave us the opportunity for further narrative and methodological stimuli. In the weeks that followed, the timeline of our padlet was enriched with new chapters and revisions, fantastic characters and familiar scenarios. The pair took shape in an ecological tale about environmental sustainability and the incommunicability between the human and natural worlds, about the disconnect between childhood and adult life. The gorilla seeks help from

¹ https://padlet.com/filomena_taverniti/Spaes In our digital bulletin board you can appreciate the timeline of the collaborative writing of the text, with the various interventions of the students, made of writing, origami and illustrations of the plot.

² <https://piccolescuole.indire.it/iniziativa/spaes-un-atlante-di-geografia-fantastica/> INDIRE *Spaes*'s initiative is a collaborative writing workshop to be done with classes, to bridge the distance during health emergencies: to create with children stories, rhymes, word games, songs, about what was «outside» at that moment, about what we could see from our real, imaginary and metaphorical windows, to build a geography invented by language. It is a geography that has served us a little to cross these days, a little to utopia and a lot to fun that, as Rodari told us, is always more useful in those moments.

the townspeople who are locked up in their homes because of an invisible virus, and that distance experienced by the people characterises the relationship between childhood and adults, between institutions and citizenship. In the construction of the story each person took turns adding details and possible final developments so as to select the escape book or game book as the narrative form: we imagine various possible endings that give different meanings to the story.

2. Educational objectives

The aims of this path were many, complex and unexpected, first of all to maintain the relationship and social contact in quarantine, to encourage authentic learning, to reflect on the geography of known places (the country far away because of the virus), on the close relationship between local territory and sustainability, on the ability to imagine possible dialogues between an origami and the story to be told.

The difficulties were varied, mostly of a technical, administrative and communicative nature: distance affected the difficulty of communication, the lack of a stable internet connection for everyone meant that we often had to look for means and tools other than the traditional synchronous lesson, and many took part thanks to an email, instant messaging or a phone call. The teacher's role was to give voice to the ideas of the class, stimulate the imagination through reading, listen and mediate between the various instances, teach writing techniques and experiment with digital accessible and free tools. If we recognise the school's task of cultivating communication between social environments, we cannot fail to recognise that digital environments are a fundamental means of overcoming distance, whether geographical or in terms of bodies, and never give in to the facile criticism of mere didactic ends.

3. Tools and methodology

The creative techniques implemented start from a necessary self-training of the teacher through the study of Rodari's *Grammar of Fantasy* (1973) as a fundamental text to prepare a creative writing workshop in the classroom:

1. *Binomio fantastico* (fantastic combination) arises from the meeting of two words with 2 different meanings, which cause a meaning that goes beyond reality and which together create a bizarre pair. They are two words that are distant from each other, where their juxtaposition is unusual and they provoke the activation of the imagination so that the two words can coexist. The two terms are estranged and are therefore in the best conditions to generate a story. Ex: *Gorilla and snack*.
2. *Estrangement* comes from the technique of making an origami or

an animal speak by recreating its point of view. The narrative voice tries to identify with the point of view of an animal that does not understand human life and behaviour and reverses the perspective.

3. *What would happen if...* Hypothesis technique: use of hypotheses through the question 'What would happen if..; where a subject and a predicate are chosen to create the hypothesis to be worked on. For example: *What would happen if a gorilla woke up in the Monterano reserve with a bagged snack between its paws while the pandemic kept us locked up in the house?*
4. *What happens next.* Once the story is over there is the possibility of a different ending, of a further continuation.

Through the insertion of a new element a story begins, it is a game of non-automatic imagination that gives voice to the individuality of the writer and his constructive nature. The result is a final product that is close to a game-book.

3.1 Tools and learning environments

The tools used:

- *Weschool* as a school teaching platform
- *Jitsi* for videoconferencing (synchronous lessons)
- *Padlet* as a digital collaborative writing environment
- Shared *Google Drive* for text revision and final publication
- *Video Creator* for making a video trailer of the story
- *Screencast O'Matic* for asynchronous lessons on writing techniques and origami folding
- *Google maps* for viewing the Monterano reserve, background of the story
- Folding paper (for *origami*)

The choice has been to prefer free tools and applications, open source where possible. Intuitiveness was the second criterion, as well as ease of use.

4. Class library

How can we approach collaborative writing? First of all, starting from the experience of reading aloud shared in a group, in class or at a distance, through expressive reading by the teacher or a podcast listened to together in synchrony. The collective exchange of impressions, even partial understandings, inferences and anticipations about the story are the initial vehicle for learning how to start writing a text, working on the genre, facing the difficulties of plot construction, discovering the mastery behind the characterisation of the characters in action and reasoning about the curve of the story. All this is possible if one has previously implemented a workshop method open to the mutual exchange of reading strategies (Chambers, 2015) aimed at the social learning of textual comprehension.

5. The final result

Assessing the impact of such a project must include a self-assessment research. Quoting Nora Giacobini (2016), an MCE teacher, in order to discuss the outcome of an action-research project it is necessary to start from what it meant to be inside or to give voice to the students in the class. Their interviews talk about the value of the collective task as an opportunity to do different activities, emphasising the recreational and fun dimension. So it is on the value of the collective task that one has the best incentives and can give a positive value to the experience narrated here.

The educational process put in place achieved objectives that were unexpected from the initial planning because new needs and expectations were added in the extraordinary contingency. The most relevant novelty was that of experimenting forced by the necessity of the new learning environments and drawing positive considerations from this with respect to the final result.

In detail:

1. The Medium Enables Everyone To Exercise Their Skills, Abilities And Knowledge;
2. Everyone Learned The Basics Of Using A Digital Interactive Board As A Padlet;
3. The Initial Task Was Carried Out With Everyone Taking Turns To Participate, Valuing Personal And Collective Input.
4. The Result Was A Long Story Entitled «*Una Gorilla A Canale* '' And A Video Trailer With Origami, Which Realised The Original Idea Of Tracing A Path Together Even In Physical Distance The Results Of Which Can Be Seen In Indire's Spaesi³ Project.

The application also made it possible to view the changes made by all the students in real time, and the text was saved automatically and immediately each time, making it easy for the teacher to monitor and control it. Once the text had been written, each student was assigned the task of reading the whole story and intervening with comments and/or suggestions during the lesson by selecting words or parts of the text written by groups other than their own, or by bringing their own contribution to the chat, in order to facilitate the final revision phase of the story. The evaluation of the work was carried out taking into account in equal measure both the quality, the morphosyntactic correctness and the vocabulary related to the parts of the story developed by each group, and the comments and answers written by each student.

³ In the webinar, various proposals for interventions and experiments like ours are collected. You can also watch the video trailer of our final product, edited and produced by the class: <https://indire.webex.com/cmp3300/webcomponents/docshow/docshow.do?siteurl=indireandmactype=Osxandrnd=0.013889024945551331>.

The greatest difficulties were of a technical and communicative nature: it is clear that our country is not yet able to systematically address the digitalization of education and teaching practices, nor to create the conditions for public schools to provide e-learning in emergency situations. If we consider that access to the devices was not public or free for all, but only for those who expressly requested it, we can say that this condition precludes a potential dispersion.

Conclusion

The deconstruction of the traditional learning environment makes it possible to reduce the number of face-to-face lessons in favour of autonomous work, perhaps in pairs or groups, but requires planning in small steps by the teacher and a lot of scaffolding for the use of unusual tools.

Experimenting with collaborative writing (Lodi, Tonucci, 2017; Lorenzoni, 2019) can have obvious and positive effects on learning processes: there are several aspects that can make co-construction activities particularly formative. In fact, in the first place, students learn to collaborate, compare, share and negotiate ideas and knowledge with a view to producing a collective and shared product. They are called upon to make more conscious and careful linguistic and text planning choices, and to make contributions, grasping and respecting the variety of points of view. At the same time, this aspect encourages the development of positive interdependence within the class group and leads to the development of social and civic competences as everyone is committed to participating actively and democratically in the various stages of the task. Secondly, another potential benefit is linked to the competence of learning to learn and to the activation of metacognitive processes on textuality, peer evaluation and self-assessment of one's own work which are stimulated, even before the feedback provided by the teacher, by the classmates themselves, who, in a sort of metacognitive conversation promoted by the interactive digital noticeboard, are called upon to express comments and suggestions on sections of text written by other classmates in order to encourage the introduction of improvements and stimulate functional reflections at the final revision stage of the text.

If we recognise the school's task of cultivating communication between social environments, we cannot fail to accept that digital environments are a fundamental means of overcoming distance, whether geographical or in terms of bodies, and never give in to the facile criticism of mere educational purpose.

In the school of the 21st century, the book can be thought of as a framework around which the setting up of common knowledge revolves, from which the action of social learning starts. It is through supplementary materials that teachers and students can build personalised, multi-perspective, dynamic pathways. It is also thanks to

different tools and environments that it is possible to generate a shared construction that takes into account different needs and learning styles.

In conclusion, it is possible to say that the experience of the quarantined school was mostly distance learning rather than e-learning or d.a.d. as a synthesis of the relationship between peers and between learners and teachers.

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Enacting Digital Education Platforms. A Critical Take

Say It, Do It, Learn It! Digital Education at the Museum: A Theoretical Reflection Towards a Review of the Studies on the Application of Digital Technologies in Museum Education

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ABSTRACT: *The museum has always been an educational space at the forefront of change. Since 2000, museums and galleries have gradually integrated the digital experience into the overall museum experience. Today's museums do not communicate in the digital space but do exist in it by experimenting with new forms of cultural inter-understanding, while still respecting the different expectations and skills of its public. How does the interaction between virtual and physical spaces help or hinder learning? Does the interaction between physical and virtual realities require the construction of physical learning spaces to consider the modulization connected to the virtual world? Focusing on the theme of how virtual environments can act as effectors or substitutes for our physical learning environments, this contribution, starting from a theoretical reflection to describe educational digital contexts as spaces for virtual social learning, proposes a review of some international studies on the use of digital technologies in education, starting from the museum. Among all different theories of learning, connectivism and activity theory suggest that our digital tools and the socio-historical culture that surrounds the public become an intrinsic part of the learning process. It is interesting to consider how these same processes apply to both virtual and physical worlds, since virtual worlds and physical worlds are not mutually exclusive entities but intertwined in parallel realities that not only influence each other but also each individual within them. Many researchers note that, nowadays, museums are placing a never before seen emphasis on education by highlighting that museums should be included in virtual learning environments, where they will be able to explore the use of digital technologies to interact with visitors in public environments, respecting the museum's mission to transmit knowledge of cultural heritage. This new attention placed by museums to the digital is also to attribute to the change introduced by the International Council of Museums (ICOM) regarding the museum's mission, that is the transition from a museum conceived almost solely for conservation to a user-centered museum (ICOM, 2007, museum definition, 1).*

KEYWORDS: museum education, experiential learning, digital museum.

Introduction

The goal of this article is to propose a critical review of the international scientific literature on the subject of digital museum education. Starting from the presentation of some scientific studies, we propose a review of some learning theories useful to describe virtual social spaces and contexts of educational technology, such as: *constructivism*, *social cognitive theory*, *connectivism*, *computer-supported collaborative learning* and *activity theory*.

Methodologically, the selection of scientific articles was carried out according to the following criteria: 1. relevance to the topic of digital education; 2. geographical distribution of the cited studies; 3. chronology of scientific publications, favoring recent research. The criterion of relevance to the topic has oriented the selection towards international research focused on the use of educational paths, proposed by museums, via digital technologies. The criterion of geographical distribution was followed to ensure a broad representativeness of the selected scientific publications. The corpus of publications refers to studies conducted by researchers from various universities in various parts of the world, in order to guarantee the widest scientific, cultural, and technological heterogeneity, with respect to the research and results obtained. The selection of publications according to a chronological criterion made it possible to follow a temporal thread that describes the evolution of the theme and the state of the literature. This approach focuses, in particular, on the studies and research carried out in the last five years.

1. International framework

Since 2000, museums and galleries have gradually integrated digital technologies into the overall museum experience (Mason, 2013). To describe museums after the digital revolution, Parry (2013) introduces the concept of a post-digital museum in which «digital media have become normative within the Institution» (vol. 1, 24-39). In this scenario, museums are pushing the boundaries of the digital revolution beyond the introduction of cutting-edge technologies. Whenever the digital is used, the museum experience becomes an integral part of the visitor's overall experience (Mason, 2013). The tendency to adopt interactive and multimedia dissemination methods makes the contemporary museum assume the hybrid connotation of exhibition space and classroom (Carci et al., 2019). The collaboration between museum, education, and communication, throughout the process of conception, design, and development of digital resources, is what shapes these practices. But, while the technological change of museums is widely documented, research on the impact of technologies on cultural practices and social models in general is still lacking (Evrard, Krebs, 2018).

The four-year V-Must (Virtual Museum Transnational Network, 2011-2015) project, funded by the European Commission and coordinated by the National Research Center (CNR), has done significant work by examining various virtual museum projects in Europe and in non-European countries (Sartini et al., 2015). On the basis of this work, a general framework has been proposed based on the concept of «responsive museum» (Hazan, Hermon, 2015), which sees museums as participatory communication nodes built around collections. This framework has provided some guidelines for implementation— such as interactivity, personal experience, rich content, narratives, and coherent display of exhibitions— but has not investigated the question of the interpretative approach typical of virtual museums, which largely hindered the evaluation of this framework's impact and development (Perry et al., 2017; Carci et al., 2019).

Many researchers note that museums now place a never before seen emphasis on education (Falk, Dierking, 2016; Styliani et al., 2009; Sylaiou et al., 2010), highlighting how museums should be included among virtual learning environments whenever they explore the use of digital technologies to interact with visitors in public environments as a way to live up to their mission to transmit knowledge of cultural heritage (Scavarelli et al., 2020). The new attention to the digital in museums can also be traced back to the change introduced by the International Council of Museums (ICOM) regarding the museum's mission, that is the transition from a museum conceived almost solely for conservation to a user-centered museum (ICOM, 2007).

As summarized by Bitgood (2013) and Witcomb (2015), through the use of digital technologies museums aim to provide meaningful learning experiences for their visitors. Often, however, they still use approaches to learning that Franklin and Papastegiadis (2017), drawing on the work of Hanquinet and Savage (2012), define the most «ancient and culturally paternalistic form of 'educational recreation' that appeals only to a very narrow segment of the educated middle classes» (p. 42). In her recent work, Daniela (2020) notes how none of the virtual museum applications analyzed has been shown to provide the opportunity to build new knowledge or skills using concepts learned only in new virtual contexts. Virtual museums can be considered as learning agents, they can help expand collaboration with digital materiality, help visualize and spatialize abstract concepts, but the material should be prepared by keeping in mind the learning process (Daniela, 2020; Gaylord-Opalewski and O'Leary, 2019; Panciroli and Macaudo, 2018). Carci et al. (2019) observe, on the basis of a review of Italian experiences, that the digital can only represent an effective tool if strategies and action plans are defined on the basis of the initial situation of the museum, of the objectives we intend to achieve with technology, and of the informed choices motivated by the available digital solutions, all within a general strategy of audience development. Perry et al. (2017) note that it is increasingly common to see museums seeking diverse and complex outcomes, such as facilitating

change, social activism, creating intellectual and emotional experiences. However, the same authors underline that the research is heterogeneous and weak in terms of evidence and possibility to generalize the results (Perry et al., 2017). Starting from these premises, the *Emotive* project, funded by the European Commission under Horizon 2020, has developed prototypes aimed towards different museum-visit contexts (i.e., site visits versus remote visits; synchronous or asynchronous visits; individual or group experiences), different technological and mobility needs, different multimedia resources and communication priorities.

Indeed, one of the main changes in cultural practices is linked to the great diversification of the ways in which content, information, and social experiences (Strykowski, 2012; European Commission, 2015; 2018) are accessed; therefore, the true potential of a virtual museum lies in the creation of personalized, immersive, and interactive ways to improve our understanding of the world around us (European Commission, 2015). In this context, the relationship between the real and the virtual is an important and stimulating issue for the future of museums in the digital age (Bertacchini, Morando, 2013) and yet, surprisingly, little academic research has been conducted in this area. Most research addresses the contents and communication strategies of museums' websites or social media (Courtin et al., 2014) or conceptualizes digital tools as possible products and/or new markets. Still lacking is research on the sociology of users and on their attitudes or representations (Evrard, Krebs, 2018).

1.1 Definitions

The terms 'presence' and 'immersion' are sometimes used interchangeably, but most authors accept the following definitions:

- *Immersion*: the technological offer from an objective point of view. The greater the number of technologies that cover the different human sensory modalities, the more immersive the experience (Bowman, McMahan, 2007).
- *Presence*: the element that makes virtual worlds real; it is the point where an individual begins to accept an artificial reality as reality. It includes two main illusions: (1) the illusion of place (illusion that the place where I am now is actually real) and (2) the illusion of plausibility (illusion that what is happening is actually happening) (Slater, 2009). It is necessary to remember the concept of embodiment, which is considered an integral part of learning (Johnson-Glenberg, 2018).
- *Embodiment*: describes the mental representations of the body in space. It can be physical and/or virtual. The three main components of embodiment are (1) properties of the body (the sensation that the inhabited body is one's own), (2) position of the self (being in the place where one's body is) and (3) acting (that is, an individual can move and feel their body) (Borrego et al., 2019). Johnson-Glenberg MC (2018) indicates embodiment and presence as the «*two deep offers of virtual reality*» (Vol. 5; Art. 81; page 2).

Zimmons and Panter (2013) demonstrate that making digital worlds more photorealistic does not necessarily increase presence; Jerald (2015) suggests that full presence is achieved by focusing on the user's physical interactions, body signals, and social communication. In the development of virtual applications, it is necessary to consider: the *fidelity of representation* (how much the images correspond to reality); the *fidelity of the interaction* (how much the interactions correspond to reality); and the *experiential fidelity* (how much the perceived experiences correspond to reality).

2. Learning theories for virtual spaces and digital media

There are several learning theories used to describe the contexts of educational technology. The following theories are useful to represent learning within virtual social educational spaces.

- *Constructivism* is a *learning-centered* theoretical framework that places the learning subject at the center of the educational process. It stands as an alternative to a *teaching-centered* educational approach based on the centrality of the teacher— the only and undisputed holder of a universal knowledge, abstract and independent of any reference context. Constructivism focuses on the centrality of students actively building their knowledge through a more experiential model. Dewey referred to this as «genuine education» and Vygotsky emphasizes that «*this process is a social process mediated through the symbols and language of a culture*» (Merriam, Bierema, 2013; Vygotsky, 1978). Furthermore, constructivism is generally considered to be crucial for self-directed learning (Zimmerman, 1989) and for Lave and Wenger's concept of situated learning, which suggests that the environment helps in-form learning in individuals (Lave, Wenger, 1991; Merriam, Bierema, 2013). One of the best-known experiential learning processes is Kolb's learning cycle, which defines learning in four phases: «*concrete experience, reflective observation, abstract conceptualization, and active experimentation*» (Kolb, 1984).
- *The social cognitive theory* proposed by Bandura considers both social and personal effects on an individual's activity and motivation (Bandura, 1989). Schunk (1996) defines social cognitive theory as learning that occurs within a social environment, through the observation and emulation of others: we learn by observing others and adjusting our efforts based on their reactions. These are essential reflections for any social virtual reality system as they help to better understand how the social context can both help and hinder an individual's learning.
- *Connectivism* is a theory of learning in the digital age that focuses on the idea that all learning takes place in a network, a connection

of entities, not only within the learner's mind but also through external nodes such as «non-human devices» (technological devices and the internet). Connectivism is based on the concept that learning is a *network-forming process*, based on the principles of diversity, autonomy, interactivity, and openness. It promotes a holistic approach that evaluates the widest possible spectrum of knowledge-related points of view. It considers knowledge as the result of an interaction between all the individuals involved in the learning process. Web 2.0, with its democratic, open, and social structure, has greatly contributed to the transformation of learning, making the process active and interactive. The social tools in this environment become places dedicated to the creation of meaning (sensemaking spaces). According to Siemens (2005), the dominant trait of humanity is the acquisition, processing, and creation of information, which improves through social interaction. Although not yet accepted as an independent theory, the number of studies referring to Siemens' concepts in combination with existing learning theories is growing (Bell, 2011).

- *Computer-Supported Collaborative Learning (CSCL)* is more of a teaching strategy than a theory and it is an important aspect in any discussion about the use of virtual reality in social learning spaces, since it deals with how students collaborate using computers (Stahl et al., 2006; Stahl, Hakkarainen, 2020). The importance of CSCL is central both in the reflection on the relationship between student and technology and in the professional development of teachers. Furthermore, it is crucial when considering the effect of the environment on learning and on the socio-cultural or socio-historical contexts of social learning spaces (Stahl, Hakkarainen, 2020). Some CSCL theorists rely on the principles of activity theory, which describes human activity through a lens that considers the individual, the objectives, and the community as interconnected (Engeström, 1987; Stahl, Hakkarainen, 2020) and takes into account the tools or cognitive artefacts used to mediate learning, such as digital interfaces (Nardi, 1996). Although CSCL does not refer to a single theory of learning, its activity theory-based elements, such as expansive learning, are significant in a context of virtual reality and computer-supported collaborative learning (Stahl, Hakkarainen, 2020).

2.1 Focus on Activity theory for learning in digital museum

It was born in the 1960s, within the historical-cultural school of Vygotskij thanks to his pupils Leont'ev, Rubinstejn, and Laurija, among others, who emphasized that internal cognitive activities cannot be fully understood if analyzed separately from the external ones; consequently, the mechanisms of internalization and externalization must be studied jointly. Activity theory is composed of several key elements: (1) the subject/individual participating in the activity, (2) the object, not tangible

like a tool but rather the «*object*» of direction that motivates the activity, (3) actions as purpose-driven conscious processes to reach the object, and (4) operations as internalized subconscious processes to reach the object (Leont'ev, 1978). Instead of simply considering the individual and the object, Engeströme (1987, 2016) suggests that an activity contains three entities: the individual, the object, and the community within a form of learning called expansive learning. He (2016) argues that activity theory provides a more complete alternative to Kolb's (1984) experiential learning cycle and Nonaka and Takeuchi's (1995) four modes of knowledge conversion since it explicitly considers the cultural contexts of social learning spaces and differentiates between education and self-guided learning. Activity theory allows us to better understand interaction with the interface as a sequence of actions and processes (Cranton, 2016; Kuutti, Bannon, 1993) within constructivist learning environments (Jonassen and Rohrer-Murphy, 1999). Although activity theory is often analyzed with respect to the individual— albeit with some input from the surrounding culture and community— there are interpretations for which social interactions are significant within the learning sciences (Engeström et al., 1999). In the context of constructivism and experiential learning, it is important to be able to enter real world situations and authentic environments. We can also observe that memory is closely associated with the environment (Chun, Jiang, 1998, 2003; Smith, 1979), and the power to recreate these «spatial contexts» as virtual spaces (or virtual environments) in virtual reality has great potential in the form of virtual «memory palaces» (Krokos et al., 2018).

3. Towards a digital museum

Museums are currently facing a decline in interest and attendance by young people. As a response, some museums are organizing *personal and interactive experiences* (Marketing Museums to Millennials, 2010). This has led to experiments on the use of interactive methods to attract and engage young people. Some interesting examples of the use of virtual reality technologies in museum exhibitions (Alexander et al., 2013; Dreams of Dali: Virtual Reality Experience – Salvador Dali Museum, 2016; Lacoche et al., 2017; Snibbe, Raffle, 2009; Sylaiou et al., 2010) often use reality-based interactions (Jacob et al., 2008) to create more embodied interactions.

Recent research investigated how the manipulation of virtual artifacts can help emulate the social experience of visiting the physical museum (Li et al., 2018), as well as the use of fiction in both virtual and physical museum contexts (Hoang, Cox, 2018). Certain types of media, such as *social immersive media* installations, focus on Reality Based Interactions (RBI) that scale from one to a number of participants (social scalability) and may be useful in future social class research focused on learning

experiences that require the simultaneous use of digital technologies. The principles of «immersive social media»— visceral, responsive, continuously variable, socially scalable, socially familiar, and socially balanced (Snibbe, Raffle, 2009) — seem relevant for virtual socio-educational contexts. Dede (2009) notes that understanding the strengths and limitations of these immersive media for education is important, especially because situated learning appears to be a promising method for learning sophisticated cognitive skills, such as using inquiry skills to find and solve problems in complicated situations. Digital tools, then, can be of great use in the development of Virtual Learning Environments. VLEs, limited only by the creators' vision and by a computer's hardware, allow for significant opportunities to experience otherwise inaccessible situations and environments. The motivation to implement these digital tools comes from our ability to use 'embodiment' to aid learning through three constructs: (1) the amount of sensory-motor involvement, (2) the consistency of gestures and to-be-learned content, and (3) the amount of immersion experienced by the user (Johnson-Glenberg, Megowan-Romanowicz, 2017). Due to the absence of standardization and attempts to replicate research results, there is a conflict within the literature on what are the best practices for digital education/teaching. Merchant et al., (2014) found that virtual games were more effective as learning tools and that, surprisingly, individual play was more effective than collaborative play. However, these findings could be challenged by other works that suggest that individual play is also essential for promoting group activities (Sawyer, 2017). There is a lack of conclusive evidence to suggest that virtual/3D learning environments support learning effectively (Dalgarno, Lee, 2010). Fowler (2015) points out that more concrete guidelines for creating digital learning content would help. Merchant et al., (2014) conclude that, although virtual education is effective, there are aspects to be guarded such as repeated assessments that reduce learning outcomes. These types of difficulties in validating learning outcomes through educational activities in museum digital environments are well summarized by Dede and Richards (2017), who recognize that designing, evaluating, and creating digital learning content, within various learning contexts and with various users, it is challenging but of fundamental importance for the future.

4. On using the digital and on social learning spaces

There are many interesting aspects to consider when trying to create digital applications in social learning spaces. In general, three main areas of interest and directions for research emerge unambiguously from scientific literature: 1. accessibility; 2. the unclear interaction between parallel realities (virtual and physical) in learning; 3. the preferred educational theories and methodologies within social learning spaces. Furthermore, we must also observe and verify through experimental

rigor how the digital can help improve educational practices within these learning contexts (Dalgarno, Lee, 2010; Fowler, 2015).

Researchers note that there are not enough real-world case studies on the use of digital technologies for learning in social settings (Markowitz et al., 2018) and that it is difficult to test these technologies in authentic contexts (Dede, Richards, 2017). Accessibility will always be a significant concern because learning is not exclusive to a few people, but to everyone. When we consider social learning spaces, such as museums, we must also consider how to make sure that the technology in use within these spaces improves learning rather than hindering it. Studies suggest three specific areas where further exploration can help make the use of the digital in social learning spaces better follow the principles of Universal Design for Learning (UDL): platform scalability, social scalability, and the scalability of reality.

- *Platform scalability* refers to a system capable of adapting to different platforms (desktop, mobile, large screens, etc.). This is comparable to a virtual form of UDL, which suggests how to increase the accessibility of learning materials through (1) Multiple Means of Representation, (2) Multiple Means of Expression, and (3) Multiple Means of Engagement (Rose et al., 2006). By being supported by multiple platforms, digital content can potentially be more accessible with multiple means of expression. Further research in this area would help understand how interactions, navigation, and embodiment in an educational setting can change as you move across platforms. This is fundamental in social learning spaces since the state of research on the use of public technology suggests that social embarrassment can limit the use of non-familiar devices (Brignull, Rogers, 2002); the embarrassment of physically moving with a viewer could also be a problem in the context of virtual reality (Rogers et al., 2019), as the reluctance to wear HMD-VR in social spaces starts to emerge (Outlaw, Duckles, 2017; Southgate et al., 2019).
- *Social scalability* is based on Snibbe and Raffle's (2009) definition. Within a museum context where «interactions are designed to share with others... users' interaction, representation, engagement, and satisfaction should become richer as more people interact» (Snibbe, Raffle, 2009). This definition could expand to include multi-user applications that support a variable number of remote (to reduce geographic barriers) and co-located (in the classroom) users working together towards shared goals (Otto et al., 2006; Roberts et al., 2003). Future research should focus on how social scalability affects co-presence and learning outcomes, on what socially scalable interactions look like in the context of learning, and on how remote and local users communicate and interact in virtual spaces.
- *Reality scalability* refers to the concept of an application that allows for both virtual and augmented reality perspectives. Some studies

explore «collaboration in mixed space» (Grasset et al., 2005) and collaborative interfaces (Grasset et al., 2006), but there are few examples of the exploration of these techniques in education. The scalability of reality can become increasingly important in remote collaboration and co-localized collaboration among peers. As noted in the previous section on platform scalability, allowing students to use an AR over VR platform may be preferred as they may be more socially aware. In this context, future research could explore the possible learning advantages of adopting non-egocentric points of view, how to design virtual learning environments (VLE), and how to synchronize users, environments, and real/virtual objects across physical and virtual locations.

5. Real/Virtual, cultural learning, and social activity: some possible future scenarios

Scientific literature points to the emergence of important areas of work on how virtual work can affect our reality, on how identification in virtual worlds can change our behavior (Yee, Bailenson, 2007), on how performance can be influenced by others through social facilitation and social inhibition (Miller et al., 2019), on how even virtual spaces can change our behavior (MacIntyre et al., 2004; Proulx et al., 2016), and on how the physical learning spaces we live in can influence our virtual behaviors. The very nature of the use of digital technology can inhibit participation and comfort (Brignull, Rogers, 2002; Outlaw, Duckles, 2017; Rogers et al., 2019) but, despite the existence of a few studies, it is still too early to state how to prevent collisions in shared virtual spaces (Langbehn et al., 2018; Scavarelli, Teather, 2017). Connectivism and activity theory suggest that our digital tools and the socio-historical culture surrounding the public become an intrinsic part of the learning process; we should consider how these very processes apply to both virtual and physical worlds, since they are not mutually exclusive entities, but intertwined in parallel realities that influence each other and each individual within them (Stevenson Won et al., Nd).

How does the interaction among virtual and physical spaces help or hinder learning? Does the interaction among physical and virtual realities require the construction of physical learning spaces built with the modularization of the virtual world in mind?

These are some of the questions that have informed the research selected in this critical review and that will have to be addressed in the future. Although most VR/AR projects in learning depend on constructivism, experiential learning, and/or social cognitive theory, there are additional theoretical and methodological foundations that can help understand virtual and physical environments within a socio-cultural context. Activity theory, in the form of expansive learning, not only includes digital tools and objects/artifacts as an intrinsic part of the

learning process, but also the socio-historical properties of learning spaces (Engeström, 2016; Stahl, Hakkarainen, 2020). This could lead to some interesting explorations into the interaction among the social, spatial, and cultural aspects present in both virtual and physical learning spaces, and into how to better create digital content that recognizes them. The interconnected learning processes among individuals and their actions, social, and spatial environments are complex and, as human behavior can change in virtual environments, we may need to look at additional learning theories that better encapsulate how this «digital» learning takes place. It might be useful to question the effect of sociocultural contexts on learning performance in digital environments and explore the application of activity theory in social learning spaces— such as those of the virtual museum— and to parallel realities (i.e. physical and virtual).

Conclusions

This literature review clearly points to the fact that, in the era of co-creation and sharing of content, to keep on thinking of knowledge and learning as pre-packaged products is obsolete. Culture is made of both symbolic and material artifacts that mediate people's interaction with the world. Our relationship with the world is predicated on a double reality, natural and cultural: «There are no 'natural' practices: every practice to which we are introduced and in which we participate contains elements and tools (language, signals, mental models, etc.) that culturally mediate our relationship with the world» (Zucchermaglio, 1996, 16). Recent research on learning theories agrees that it is not useful to distinguish between external, or practical, and internal, or cognitive, artifacts, since an external representation can only become so through language (dialogue, gesture, writing, etc.) and, conversely, external processes can be internalized. In this regard, activity theory appears very useful for future explorations, as it is both an object of study and a method of research.

With respect to the international landscape, the reviewed research converges on some key directions regarding the use of digital technologies in educational environments— be them physical, virtual, or mixed— starting from the museum. The aforementioned points are as follows:

1. To deepen the research on the impact of technologies on cultural practices and social models: from the reviewed scholarship it emerges that pertinent research is still lacking or is mainly occupied with technological and commercial aspects.
2. To pay particular attention to the relationship between real/virtual social environments: the two environments influence each other by creating forms of communication and interaction that open up to new future scenarios.

3. To prioritize human interactions when using digital technologies: digital technologies can promote learning, but their use must be conceptualized through the logic of relational, individualized, and guided teaching and learning.
4. To prioritize the creation of a teaching and learning method that takes advantage of digital technologies in an inclusive and multidisciplinary way. In this sense, the contribution of cultural field planning proposed by supranational government institutions is fundamental to reduce methodological diversities, guaranteeing the maximum equity of access to different publics and the best use of cultural contents. There is a lot of work to be done to standardize the shared terminology surrounding digital education, to measure its effectiveness, and to identify the basis on which pedagogical projects should be built. Research clearly shows that technology is simply a promising and stimulating tool for learning that can be effective when used in parallel with traditional methods, to augment and improve existing educational methods rather than replace them. Despite this, we note the existence of untapped potential in combining traditional teaching with new technologies to help «new and old» students, that is the different audiences of museums.
5. To think and design digital technologies that support, without hindering it, the use of digital content: technology can often increase the gap between competent/incompetent users and between holders/non-holders of technology. Technology should be considered part of the educational project, but it is common to witness the erroneous practice of projecting technology onto an existing traditional lesson.

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Reinventing the Digital Literacy of Teachers After COVID-19 Pandemic

Effect of Online Training on Teachers' Technological Knowledge. The Concept of E-Learning

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ABSTRACT: *The paper describes a study conducted during a training intervention aimed at secondary school teachers on the subject of digital skills. This theme has been a central topic in Europe for many years, amplified and made more urgent by the COVID-19 epidemic which has transformed traditional teaching into distance learning (DAD). The study was created with the aim of reflecting on teaching practices and their models, in particular on the epistemological paradigms that guide secondary school teachers in the use of educational technologies. The assumption is that technologies, if used according to methodologies based on scientific evidence and pedagogically oriented, can make a contribution to distance teaching and learning processes. The aim of the study was to know the impact of the training intervention on the technological knowledge of the teachers involved through the administration of two questionnaires, pre and post intervention. The analysis highlighted some misconceptions regarding e-learning that seem more related to the degree held than to the type of in-service training received.*

KEYWORDS: *E-learning, e-tivity, instructional video, instructional design, teaching training.*

Introduction

In today's digital society, teachers need to integrate ICT into their daily teaching practice. Therefore countries should ensure ICT training as a mandatory component of all initial teacher education programs. The OECD analysis (Reimers et al., 2020) highlighted how teachers' professional development must involve both technological and instructional and learning design skills.

Faced with the standardization process of technologies in schools, due to the COVID-19 epidemic, we must think of an educational model with a strong epistemological impact capable of optimizing the learning potential and minimizing critical elements. This calls into question the skills of the teacher who must be able to put into practice the indications coming from educational and pedagogical research, in terms of technologies, if he wants to become within the new learning environment

(classroom and virtual classroom) the real protagonist of the change. If this does not happen, if the teacher continues to «move» the frontal lesson into this multimedia environment without the necessary redesign process, there is a risk of impoverishing the teaching.

1. The state of the art

Since the 1980s in Italy, numerous projects have taken place in schools to introduce what is now called didactics 2.0 and substantial resources have been invested in teacher training and to set up new learning environments. But the didactic potential of learning technologies according to scientific evidence emerged only occasionally (Calvani, 2007; Laurillard, 2008; Ranieri, 2011).

There seem to be three important aspects, integrated with each other, to consider in teacher training in this area: the concept of e-learning and related tools (methodological), the production of multimedia cognitive artefacts like audiovisual texts (technological-linguistic), the forms of active and participatory learning like e-tivity (didactic).

E-learning. The consideration regarding the specific didactic dimension (Ranieri, 2005; Anderson, 2011), which would only be partially addressed, still applies today with reference to training on e-learning. Such didactic dimension is strictly connected to the elaboration of e-learning design process models and would concern both macrostructure and microstructure levels: on the one hand, virtuality-presence integration, the management of delocalized spatialities and variable temporalities (Lazzari, 2017), on the other the evaluation/choice/adaptation of didactic strategies.

The emergency adaptation of courses and teaching activities remotely, which was tested during the COVID-19 pandemic, has brought this aspect to light (Reimers, Schleicher, 2020). As highlighted by the UN (UN, 2020) «digital solutions need relevant content, adequate teaching models, effective teaching practices and a supportive learning environment». The limit identified in this situation, in fact, would not have been so much in the lack of support offered by teachers to students – in terms of the 'teacher-student' relationship –, but rather in the lack of connection between the pedagogical contents and differentiated learning environments, through digital technologies and the organization of learning experiences – on the level, therefore, of the 'teacher-course' relationship –, which would concern both the design of the didactic design (ID) and the choice of the learning design (LD) (Bates, 2019; Goodyear, 2015).

For this reason, the technological training of teachers in the pandemic phase, in addition to recovering mere access skills, had to invest in teaching-learning skills (planning, implementation and management of resources; guidance and support) to better facilitate the learning processes of the students (see Area 3, DigCompEdu – Redecker, 2017). It

was thus possible to facilitate the transition from teaching 'with' technologies (technologies as a tool) to teaching 'through' technologies (technologies as a learning environment) (Rivoltella, 2017).

Video-based learning. The didactic video or video-based learning is focused on methodological aspects on the principles of knowledge construction through cognitive artefacts based on visual / audiovisual / audio / multimedia languages and network technologies, used with the aim of making learning processes meaningful. These texts can be used to integrate or replace part of teaching, in the construction of factual, conceptual, procedural or metacognitive knowledge. Both television texts (today a minority) and videos fall within this broad definition, categorized according to procedures and terminologies that are still not standardized at international level, each with functional characteristics for different types of knowledge: ad hoc recorded video lessons video lessons such as capture of the classroom lesson, multimedia presentations (such as Powerpoint) with voice over, screencast, live lessons in web conferences, educational videos, educational television programs, knowledge clips, etc. Of course, the list is not representative of all the existing forms, and the contamination between the texts cited appears in common use (Ganino, 2018).

The study of these texts, used in the representation of factual, conceptual, procedural or metacognitive knowledge, in all subject areas, is not a new phenomenon, but in recent years with the spread of new didactic methods, flipped, blended, MOOCs, there has been a renewed interest in this technology. Not to mention the COVID-19 emergency, which led to the use of audiovisual text as the main teaching medium. For this reason it appears useful to identify scientific evidence relating to the new design guidelines of these important educational resources.

Numerous studies show how video can be effective in training processes if the rules of Instructional design are respected: correct management of the cognitive load, enhancement of theories on multimedia learning, promotion of student involvement and active learning. All these points, especially the first two, are widely treated on a scientific level, but still do not find effective application in teaching practices, based on random or instrumental choices relating to the use of these resources (Sweller et al., 2019).

More specifically, it is clear that audiovisual texts can have a significant impact on learning if they are made on the basis of specific theoretical paradigms that constrain their use. The studies on the design of the educational audiovisual text are particularly interesting: the significant role of the integrated camera point of view, objective and subjective, in the context of learning complex manual procedures; new design elements relating to the ways of representing the teacher, his presence or absence, as well as his communicative attitude; the increasingly close relationship between educational sciences and neuroscience, in reference to the progress of the theory on cognitive load which led to the identification of new principles useful for didactic planning, and to the

support of subjective measurement techniques of cognitive load with techniques objective able to evaluate in authentic learning situations the role of different electrical frequencies, through EEG, on cognitive processes.

e-tivity. The term etivity was coined by Gilly Salmon, Director of Online Education Services in Australia and Lecturer at the University of Liverpool Management School. The author defines an etivity as a framework that allows active and participatory learning, individually and in groups (Salmon, 2013). The concept of etivity is connected to meta-learning because the student does not limit to absorb notions, but builds his path actively, through the teacher mediation, and he acquires cognitive and behavioral strategies, prerequisites necessary for meaningful and effective learning (Salmon, 2011).

In general, a teacher who designs and uses etivities in a virtual learning environment can optimize time management, he can increase the engagement and consolidate the information learned. The teacher can build an evolutionary didactic design, guaranteeing scaffolding and peer tutoring. Especially if the teacher uses a multi-instrumental platform, he can check the progress of each individual student, moderate group work and create a circular virtual setting, practicing the principles of collaborative learning.

Through the etivities, the teacher stimulates problem-based learning, providing the student with problem solving and metacognition tools, encourages discovery learning and concrete experiences.

By working in an online group, the student learns to value his resources and to compare with peers, implementing strategies to contain the feelings of competence (positive and negative) and relational dynamics. Finally, through the focus on work, the learner focuses on processes and the teacher provides feedback, motivating critical sense and self-regulation. In this perspective, designing an etivity is a challenge for the teacher who must immerse himself in a technological system that redesigns the educational relationship.

The teacher must to reshape the teaching-learning process according to a potentially distant and distracted student. To achieve these goals and overcome these difficulties, according to Gilly Salmon, to design an etivity it is necessary to prospect six elements: a spark, the challenge or problem to be solved; an activity/task to be performed; a tool that guarantees the participation and control of the student; a moderator who invites to participate, provides instructions, regulates and coordinates; a system of circularity and reciprocity of feedback and a final phase of metacognition and transcendence (Salmon, 2014).

During the learning path, for each micro-unit, it is advisable to foresee one or more etivities, with the aim of assessing the know-how of learners, placed in a complex and motivating situation. In this sense, the etivity becomes an opportunity for cognitive growth and practical involvement.

2. The working methodology

2.1. The context

The project involved the training of teachers of a secondary school with a technological focus, in Benevento (in Campania, Italy). The theme of the training was distance learning on a methodological and technological level. The course, held between September and November 2020, was carried out remotely, according to a dual modality:

- a – partly asynchronous (dedicated to conceptual knowledge through the use of video lessons, educational videos, OER, forums, e-tivity)
- b – and partly synchronous through the use of web conferencing tools (dedicated to in-depth analysis and clarification of the topics addressed in asynchronous mode, to collective discussions and reflections).

The training course was designed and organized considering the following principle as a theoretical framework: the enhancement of content and the teaching relationship, through the appropriate use of e-learning tools and methodologies, improves learning processes.

2.2. The purpose

The purpose of the study was to verify the effects of the training intervention:

- a) a – on the acquired knowledge
- b) b – on skills (therefore on the educational practices resulting from the intervention). This second part will take place through a subsequent experimentation scheduled for the period September-December 2021. It is therefore not considered in this article.

2.3. Methods and tools

The learning was verified through:

- a) The administration of questionnaires, pre and post intervention: an entry questionnaire (pre_test_01) to verify the pre-requisites of the teachers; an exit questionnaire (post-test_02) to verify the acquired knowledge.
- b) The acquired knowledge was correlated with some personal characteristics of the teachers and their previous experiences (identified during the administration of the pre_test_01).

The reference model for studying the effects on teacher training is the Kirkpatrick model (1959; and Kirkpatrick, 2006) which identifies the known four levels: reaction, learning, behavior, results.

- Reaction. Assess the teachers' response, in particular, how they felt about the training.
- Learning. Defines the effectiveness with which the information has been learned by the teachers – the skills assessment, specifically,

can be carried out through the analysis of artefacts after sharing a scale on the quality levels of the same.

- Behaviors. Describes the degree to which the training has influenced the behavior of the participants and how they are applying their new knowledge to their work.
- Results. Measures the impact that the training has had at the school level, how it contributes to the success of the organization as a whole but also offers evidence for monitoring the training program itself.

The Hamtini model was chosen from it (Hamtini, 2008, 697), adapted to the e-learning delivery environment, which replaces four with three (interaction, learning, results) levels:

- Interaction. Defined as how the learners is able to use the learning environment and to achieve the learning outcomes. It examines whether the e-learning user was able to use the interface to learn the necessary information.
- Learning. Defined as the increase in knowledge as a direct result of having engaged in the e-learning activity. This level assesses whether the people involved have learned the material they should have learned after the e-learning module and whether the net change in knowledge is the direct result of having attended the course.
- Results. Seen as an examination of the outcome of the e-learning experience; it examines the efficacy of the e-learning module, the teachers involved ability to concretely apply the theoretical knowledge acquired.

Specifically, the study focused on level 2 of learning, defined based on the modification of focus knowledge and detected through the pre-post double administration of the 'ad hoc' questionnaire.

2.4. Preparation of questionnaires

In compliance with the validity and reliability criteria, the questionnaires, both with multiple choice, were prepared on the basis of some parameters:

- definition of a clear research question and of the didactic objectives to be verified;
- use of understandable language, with terms known to the sample, no use of negative sentences or double negatives (disambiguation). This is in order to verify the ability of the sample to answer and not his ability to understand the question;
- identification of a scale for measuring responses (evaluation grids);
- carrying out a pre-test by administering the questionnaires to a sample similar to the subjects of our study (to teachers from a different school) and subsequent revision of the questionnaires.

The questions were divided into 4 areas:

- sociometric-professional data;
- knowledge of distance learning and e-learning environments;

- conceptual and methodological knowledge of audiovisual texts (web conference, videolesson, didactic video) and related delivery methods (synchronous-asynchronous);
- knowledge of e-tivity tools and related methodologies; knowledge on open-courseware environments, sharing sites, etc.

2.5. The sample

The survey conducted was aimed at knowing the effects of the training intervention on the teachers involved:

- total teachers: 49;
- of which 87% women;
- over 50 years of age (73.5%);
- over 10 years of service (75.5%);
- with previous professional training in the technological area (60.7%);
- and middle-management experience in the technology area (68.5%).

2.6. Phases

A – The pre test

- The pre test was administered online (September 25, 2020).
- The objectives of the research, the structure of the tests, the method of carrying out the tests were explained in detail.

B – The course

The course took place from 28 September to 26 November 2020 in a mixed, synchronous and asynchronous way; synchronous activities were preceded by asynchronous activities:

- the asynchronous mode involved the use of short videolessons (about 10-15 minutes), self-produced and OER educational videos, use of forums and etivities;
- the synchronous mode provided for the use of web conference lessons (lasting 1h and 30 ') focused on in-depth study of the contents treated in the asynchronous mode, reflection, questions, interventions by teachers, etc. The lesson was recorded and made available on the platform (moodle);
- the contents covered concerned: module A (know the methodological as-pects of e-learning, Know the tools used in e-learning), module B (Know the conceptual paradigms of educational video, Know the paradigms of the correct use of the didactic video), module C (Know the conceptual paradigms of e-tivities, Know how to organize and manage e-tivities activities), module D (Know Open courseware and OER repository, Know how to use these re-sources).

C – Post test

The post test was administered online after about 4 days from the end of the teaching activities (1 December 2020).

An evaluation grid has been prepared with indicators and the relative score attributed to each of the multiple choice questions.

Anonymity was respected for the information collected and the data were treated in aggregate form.

3. Data analysis and results

The data were statistically analyzed in two ways:

- description of the variation of the pre-test and post-test averages, aimed at knowing the impact of the training provided on the core of knowledge;
- correlation between responses with negative pre-post tests and two socio-professional characteristics (previous training in the technological area and educational qualification). This is to infer the weight of these factors on the training provided.

3.1. Data description

The table n. 1 shows the comparative distribution of the answers to the questions of each topic of the module, expressed in%.

TAB.1. Data description

No.	Mod-ules	Questions	Answer	<i>Pre-test</i> (n. 49)	<i>Post-test</i> (n.42)	<i>Pre/post-test</i>
1	A	Distance learning is:	Type of remote training carried out for school purposes.	47,6%	50%	+2,4%
			General case of e-learning training.	26,2%	18%	-8,2%
			Specific type of remote training.	21,4%	30,0%	+8,6%
			No answer	2,4%	2,0%	-0,4%
2	A	E-learning is realized:	On LMS (Learning Management System) support.	30,6%	27,5%	-3,1%
			Through video-lessons to be viewed in streaming.	16,3%	2,5%	-13,8%
			Via web	53,1%	70,0%	16,9%
			No answer	0,0%	0,0%	0,0%

3	B	Which of the following didactic audiovisual texts is used in synchronous mode?	Video-lesson	73%	48%	-25%
			Web conference	65%	78%	+12%
			Didactic video	8%	10%	+2%
			Simulation video	4%	0%	+4%
4	B	Which of the following audiovisual texts did you use in the course of your teaching activity?	Video-lesson	86%	48%	-38%
			Web conference	39%	55%	+16%
			Didactic video	49%	70%	+21%
			Simulation video	12%	5%	-7%
5	B	Which of the following didactic audiovisual texts can be used according to both transmissive and interactive paradigms?	Video-lesson	57%	43%	+14%
			Web conference	59%	65%	+6%
			Didactic video	22%	23%	+1%
			Simulation video	14%	13%	+1%
6	C	It is called e-tivity:	Framework that allows active and participatory online learning, individual and group.	63,3%	78,6%	+15,3%
			Any exercise proposed in an online learning environment.	20,4%	7,1%	-13,3%
			Specific type of app to organize, manage and produce teaching materials.	10,2%	9,5%	-0,7%
			no answer	6,1%	4,8%	-1,4%
7	C	Which of the following apps do you know?	Padlet	20,4%	28,6%	+8,2%
			Prezi	10,2%	16,7%	+6,5%
			Infogram	6,1%	16,7%	+10,5%
			ThingLink	4,1%	4,8%	+0,7%
			Coggle	2,0%	2,0%	+2,7%
			Canva	2,0%	2,4%	+0,4%

			No one	55,1%	26,2%	-6,2%
8	D	Which of the following LMS do you know?	Edmodo	24,5%	35,7%	+11,2%
			Moodle	6,1%	21,4%	+15,3%
			Docebo	4,1%	14,3%	+10,2%
			Olat	2,0%	2,4%	+0,4%
			no one	63,3%	26,2%	-37,1%
9	D	Which of the following repository do you know?	RAIEdu-Esplora	34,7%	40,5%	+5,8%
			Didattica a distanza	32,7%	40,5%	+7,8%
			Avanguardie educative	6,1%	7,1%	+1,0%
			Mediateca digitale	4,1%	4,8%	+0,7%
			No one	22,4%	7,1%	-15,3%

With respect to the topics covered in the various modules, there was an average increase in knowledge equal to:

Module A: + 8.6% regarding the definition of DAD (distance learning).

Module B: on the conceptual paradigms relating to «how» to use educational resources such as audiovisual texts, there was the following increase: in synchronous mode (+ 12% video lesson and + 25% web conference) according to a transmission or interactive model (video lesson + 14% and web conferencing + 10%). In this context, there is still a problem related to semantics (use of an unshared terminology) and to the difficulty of using the various artefacts as a function of precise knowledge.

Module C: with regard to tools there was a general increase, in the above-mentioned: webconference software (+ 3.7%), apps for e-tivity (+ 5%), management systems (+ 9%), websites sharing (+ 4.8%) – the average general increase was + 12%.

Module D: also with respect to knowledge relating to the use of OERs and repositories, there was an average increase of + 15%.

The only negative variance occurred in reference to the definition of e-learning (Module A) with the figure -3.1%. As shown in Tab. 1, the right answers have decreased ('E-learning is realized on LMS support', -3,1%) and there was a significant increase in one of the misleading answers ('E-learning is realized via web', + 16.9%).

3.2. Data correlation

A correlation analysis was carried out between the only negative pre-post variance, relating to the definition of e-learning (-3,1% = X), and two socio-professional characteristics – previous training on technologies (Y1) and educational qualification (Y2).

The analysis of the correlation was carried out through the correlation coefficient r , by attributing absolute values to the types of answers (3 points, right answer; 2 points, inaccurate answer; 1 point, wrong answer) and to the socio-professional characteristics, *previous training* (Y1) (3 points, design of learning environments; 2 points, digital technologies; 1

point, technologies) and *educational qualification* (Y2) (3 points, master and ph.D; 2 points, degree; 1 point, high school diploma).

The first correlation analysis showed a very low direct correlation ($r_{XY1} = 0,024$) with respect to the previous training on technologies (Y1). The second correlation analysis showed a negative correlation ($r_{XY2} = -0,125$) with respect to the educational qualification (Y2).

Compared to the knowledge cores there was a general increase. The strongest increase in knowledge was, above all, in reference to the conceptual paradigms of educational video and the concept of e-tivity. The only decrease occurred in relation to the definition of e-learning, with respect to which the correlational analysis was carried out with the data of previous training and qualification. The correlation is not able to verify the effect of the variables considered but to describe simple relationships between the available data. The weak linear correlation regarding the previous formation ($r_{XY1} = 0.024$) allows us to exclude this factor as incident the wrong answers, while the negative correlation ($r_{XY2} = -0.125$) regarding the qualification suggests that negative answers had an impact, although in a slight way, precisely the high qualification.

4. Discussion

The results highlight at least three significant aspects for the investigation.

With reference to the specific sample of teachers involved – mainly female teachers, of mature age, with over 10 years of service, adequate previous training and considerable experience in middle-management in the technological area – the training course carried out has, in general, considerably increased knowledge in the area of conceptual paradigms of video education and in the area of tools useful for the realization of distance learning (above all, the concept of e-tivity, but also tools such as apps, LMS and repositories of on-line resources). This suggests that, beyond the previous characteristics of learners, training on the technological skills of teachers is always recommended, also for deepening unknown or unclear areas of knowledge.

If we consider the increase in wrong answers on the definition of e-learning, it would be appropriate to think of the difficulty of focusing and distinguishing key concepts, such 'e-learning', 'distance learning', 'remote teaching. Within the declarative knowledge possessed by the teachers about the technological area, a sort of confusion, of probable misconception, would seem to persist between the key concepts that the course carried out has further emphasized. The meaning data on the negative correlation between wrong answers and high qualification would lead to think that unclear concepts are circulating in the classrooms of universities and that a realignment between what the research says and what is done in the training of teachers in the area of technologies would be necessary.

The COVID-19 emergency led to the development of ineffective remote teaching methods: in the sample investigated, distance teaching, one can guess from the analysis of the results of the entrance test, was used as a move from the frontal lesson, according to a almost exclusively transmissive mode. The exit test showed a significant increase in the knowledge acquired by the sample. A subsequent phase of the project, through an experimental design, with the involvement of a control group (teachers who have not been given the training course) and an experimental group (teachers trained with this training course), will be able to tell us better if these knowledge verified by the exit test were transformed into teaching skills.

Conclusion

The COVID-19 emergency highlighted, as shown by the latest Invalsi data, the use of ineffective distance teaching methods. In high school, 44% of the graduates do not reach a minimum level of knowledge of the Italian language, the overall preparation of 40,000 students seems inadequate. With a growing gap between North and South of Italy.

This highlights, as never before, the importance of the subject of teacher training on the use of technologies from a dual perspective, pedagogical and technical. Despite the efforts made in the past, and in the period of the CO-VID-19 emergency, it is necessary to intervene more effectively on the initial training of future teachers (Laurillard, 2012; Redecker, 2017). In a didactic environment modified by the introduction of technologies, the way of teaching, the way of relating to knowledge and knowledge, the times and spaces of didactic action change above all the management of the relationship between teacher and students, between students and students. All the evidence now underlines the need for the overall redesign of teaching according to the new and more complex characteristics of this complex and stimulating learning environment. More specifically, as underlined by Messina and Tabone (2014) the teacher must be able to combine disciplinary knowledge with three types of skills: pedagogical-planning to organize environments integrated learning (connection between face-to-face and blended modes); methodological-didactic to manage and offer courses consistent with the learning goals; technological-linguistic to produce multimedia-interactive materials in specific areas of knowledge.

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Rethinking School-Family Communication after Pandemic: New Protocols, Competences, and Alliances?

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ABSTRACT: *School-family communication is an extremely delicate issue, especially in times like the one we are currently experiencing due to the pandemic, which is strongly marked by the need to necessarily rely on technology to allow teachers and parents to exchange information or simply to communicate. Although in Italian schools there are formal communication protocols that provide for the use of official digital channels, there is an 'underground' of communication situations that rely on unofficial channels and involve both parents and teachers. In many cases, school regulations do not norm the above-mentioned cases and this causes some parents and teachers to be very wary of forms of communication that use unofficial channels. It is therefore more necessary than ever to reflect on this phenomenon, which is difficult to investigate precisely because it takes place in borderline areas that often escape regulations and scientific debate. The research hereby presented, which has been in development for 18 months in a school institute in the metropolitan city of Bologna, aims to investigate how teachers consider the issue of school-family communication, trying to answer the following questions: Are teachers' digital competences enough to guarantee a good level of technology-mediated school-family communication? What is the teachers' perception, in terms of usefulness, of ICTs as a tool for communication between school and family and between colleagues? Are the communication protocols used by the schools effective? How can school-family communication processes be improved?*

KEYWORDS: school-family; alliance; technology; communication; professional-development

1. The school-family communication

The spread of technologies and digital media is now a fact with which the school system must confront itself on a daily basis: teachers, pupils and families experience the pervasiveness of the media in all aspects of their lives, not always with serenity. Alongside a wide range of potential, in fact, this diffusion also offers a long series of elements to which to pay more attention. The influences and possible effects of technologies on the socio-relational level represent an aspect still little explored by the scientific literature. If for some time the studies related to the Computer Mediated Communication (CMC) field have opened the way to an investigation, even in educational contexts, of the communication dynamics through digital tools, it must however be emphasized that most of these studies are based on «traditional» digital media such as emails, mailing lists, forums or wikis (Bouhnik, Deshen, 2014; Cifuentes, Lents, 2011; Doering et al., 2008; Smit, Goede, 2012; Sweeny, 2010). The reason for this partiality is mainly given by the period in which the CMC started, before the advent of smartphones and social networks, and also due to the methodological difficulties that these new digital contexts entail. Furthermore, a majority of researches that are interested in the new

forms of communication offered by social networks are developed in contexts far from those of the school (Jenkins et al. 2016; Turkle, 2012, 2016).

Within the framework of the school's system, it is possible to recognize elements that already presented a profound complexity and that, with the introduction of technologies, have been enriched in terms of horizons of opportunities and educational challenges. Reference is made, in particular, to the relational dynamics affecting pupils, teachers and parents and how these have become further complicated due to an increasingly constant access by users to the possibility of communicating through new channels (messages, telephone calls, e-mail, audio messages, images, videos and other methods made possible by today's social networks). The spectrum of possible communication tools is wider than ever, and ranges from digital tools that can be defined as «official», conceived and made available in an institutional manner by the school for purely educational purposes, and «unofficial», spontaneously used by families and sometimes teachers too (Soriani, 2018). This dense network of relationships mediated by digital contexts – referring in particular to the relational dynamics between students / students, students / teachers and even teachers / teachers – occurs seamlessly inside and outside the times and spaces of the school, and influences the social climate of the classroom in a very decisive way. While these dynamics have previously been explored, albeit partially (Pacetti, 2019), there are others that still remain unexplored and that could contribute to improving the professionalism of the teacher in the care of relationships in the school environment with families and pupils. In particular, the issue related to «unofficial» channels represents an important junction in the communication space between the stakeholders while often risks leading to conflicting dynamics managed in a difficult way or simply perceived as an unnecessary burden and an additional load for teachers and parents.

A reflection in this sense is very important for a series of elements:

- The lack of research (especially in the Italian context) dealing with the relational aspect of technologies in the school environment;
- The indefiniteness of this type of situation, often difficult to manage and a source of concern for teachers and parents;
- The potential in relational and logistic terms linked to communication mediated by technologies;
- The difficulty in investigating similar phenomena caused by their indefiniteness.

The problem transversally affects all school contexts, and in times of pandemics, during which computers have forcibly mediated all communication, this reflection has become even more urgent.

2. The research

2.1 Research's questions

The research hereby presents the second part of a larger research, which has been in development since January 2019 in a school institute in the Metropolitan City of Bologna (Italy) composed by one kindergarten, two primary school and one lower secondary school (pupils from 3 to 14 years old): the research aims to investigate how teachers and parents consider the issue of school-family communication (SFC).

The research questions that sustained the whole work are:

- Are teachers' digital competences enough to guarantee a good level of technology-mediated school-family communication?
- What is the teachers' perception, in terms of usefulness, of ICTs as a tool for communication between school and family and between colleagues?
- Are the communication protocols used by the schools effective?
- How can school-family communication processes be improved?

2.2 Methodological notes

This research was conducted by following a specific approach called Professional Development Research (from now on, PDR)²⁸. PDR is an empirical research methodology formalized by the Centre for Educational Research on Teachers as Professionals²⁹ (CERTP) which consists in conducting empirical research in formal education systems by using a variety of methodologies with the aim of promoting the professional development of teachers by building common research pathways within the framework of inter-institutional collaboration. In this specific PDR, we also involved parents as fundamental active actors.

The research has started in 2019: during the first year, we established the group for the PDR, we designed the research tools (questionnaires and focus group) and validate them, and we collected first data: due to COVID-19 situation, we decide, during the second year, to redesign research tools adding questions and to rescheduling activities, collecting more data and starting planning concrete actions to improve school-families communication.

In this contribution we will present the results of the second year of the study, which focused more on the SCF dynamics during lockdown.

2.3. Data collection tool

Two surveys have been distributed online in the school where the research took place: one for teachers and one for parents. Both surveys had a compile time of 10-15 minutes and were divided in several areas.

Teachers/educators survey was organized in:

- general information;

²⁸ In Italian, «ricerca-formazione».

²⁹ In Italian, «CRESPI (Centro di Ricerca Educativa sulla Professionalità dell'Insegnante)». For more information, see <https://centri.unibo.it/crespi/en/centre>

- digital competences level and level of confidence in the use of ICTs for school-family communications (SFC);
- SFC dynamics during lockdown;
- perceptions about school's rules about SFC.

Parents survey was organized in:

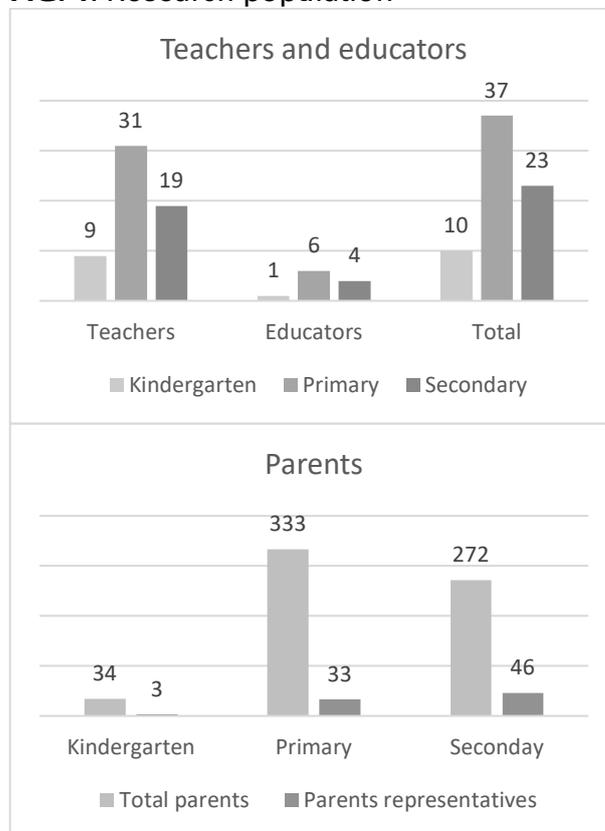
- general information;
- digital competences level and level of confidence in the use of ICTs for school-family communications (SFC);
- SFC dynamics during lockdown;
- digital platforms used and practices related.

The closed questions have been analysed with the support of Microsoft Excel and the open-ended ones have been categorized in macro areas following an inductive approach (Thomas, 2006).

2.4 Research population

To the surveys answered: 58 teachers, 11 educators and 566 parents of 639 pupils.

FIG. 1. Research population



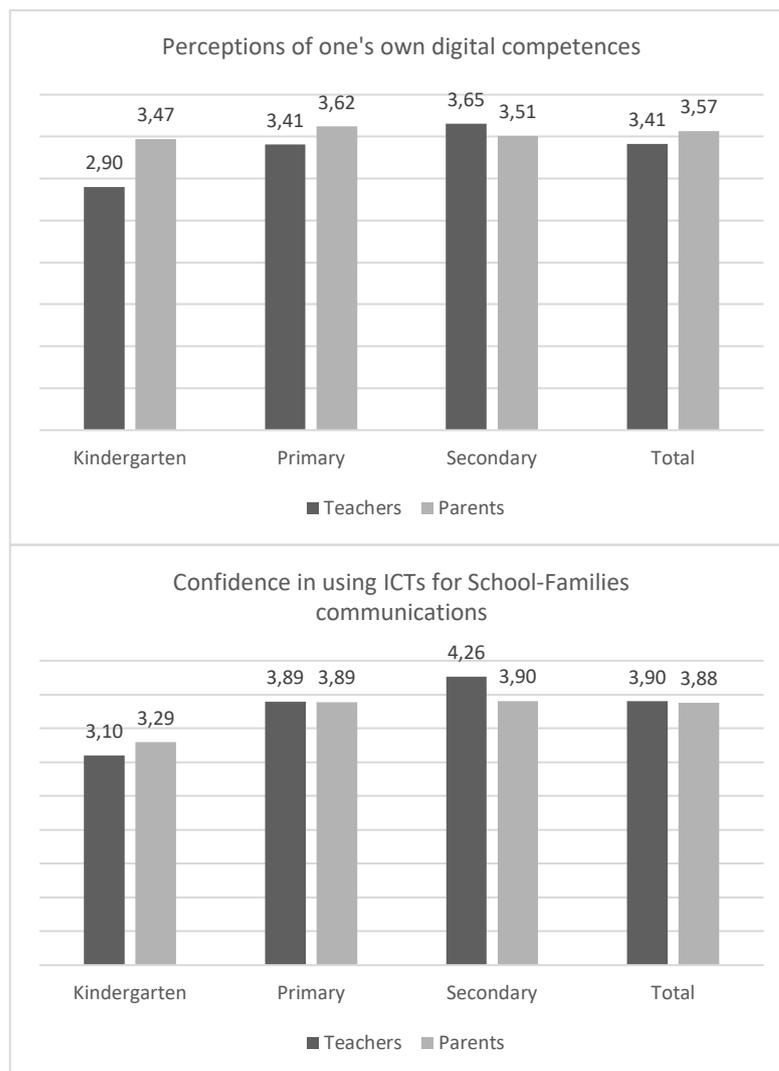
3. Data analysis

3.1. Levels of digital competences and of confidence in the use of ICTs for school-family

The teachers and the parents, which have participated to the research, have, in general, a good self-consideration in terms of personal level of digital competence. By observing the graphic below, it is possible to notice that kindergarten's teachers and parents are those who have answered with lower values, and that primary and secondary schools' ones have the same trend.

The same comment can be applied to the level of confidence in using ICTs for school-family communications; the only concrete difference is that the values are higher than those of the perceptions of one's own level of digital competence.

FIG. 2. *Teachers and parents' levels of digital competences and of confidence in the use of ICTs for school-family – Likert scale: 1(min.)-5(max.)*



3.2. Teachers and educators' data *Communication dynamics during lockdown*

The firsts two questions concerned the practical aspects of technology-mediated-communication with the parents that teachers appreciated the most and that find more critical.

Among the aspects that they appreciate the most one can find the possibility to communicate quickly (40,5%), the possibility of even more structured and optimised electronic meetings (13%) and the participation of the parents (11,6%); among the more critical aspects one can find the absence of direct human contact (24,6%), the low level of digital skills among the parents (20,3%), the lack of technological equipment in some families (11,6%) and the struggle in respecting timings with the increase of e-meetings (8,7%).

The second block of questions was about the practical aspects of technology-mediated-communication with the other colleagues that teachers appreciated the most and that find more critical.

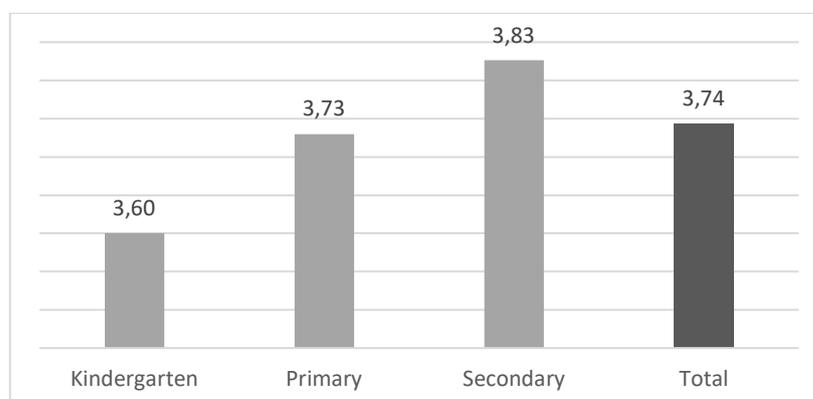
Among the aspects that teachers appreciated the most we can list: the clarity and the immediacy of the communication exchanges (31,8%); an increased continuance of the relationships with colleagues (18,8%); the efficacy of the official digital channels (15,9%); the easier participation in school's dynamics (14,5%).

The critical aspects the most pointed out by teachers are the absence of direct human contact (21,7%), the difficulty in communicating by the mean of a digital tool (20,2%) – which makes some institutional operation more complicated – and timing issues like the too much time spent online and the sense of being available seamlessly (8,7%).

Perceptions about school's rules concerning school-family communication

The teachers survey contained a section devoted to understanding the respondents' perceptions of the school rules concerning school-family communications. By looking at the graphic in FIG. 2 it is possible to observe that, in general, all the teachers find these rules quite adequate (average Likert value: 3,75).

FIG. 2. *Teachers' perceptions about the school's rules concerning SCF – Likert scale: 1(min. level of adequateness)-5(max. level of adequateness)*



To the open-ended question «Which proposal would you have to supplement the regulation?» answered only 26 subjects out of 69.

The most relevant categories of proposals emerged are: making communications clearer (8,7%); communicate at a more appropriate time (7,2%); only use official channels (5,8%); communicate in more languages (5,8%); more accurate management of online meetings (5,8%); allow educators to participate to e-registry (4,4%); more training for teachers and parents (4,4%).

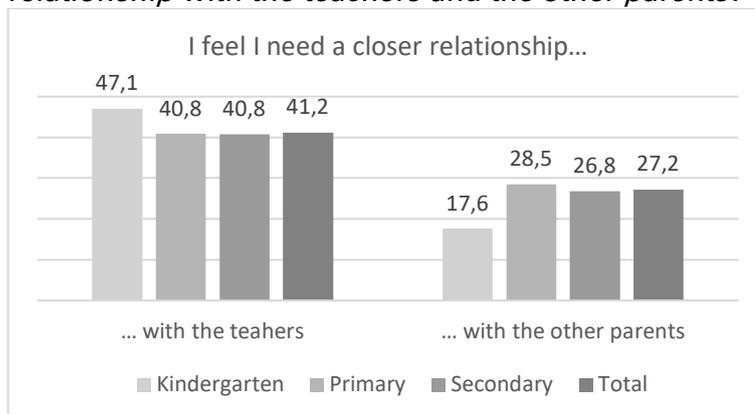
3.3. Parents' data

Communication dynamics during lockdown

In this paragraph we will present the parents' answers to the survey's items aimed to collect their perceptions about SFC dynamics during lockdown.

The graphic in Fig. 3. shows a comparison of the answers to the question «Do you feel you need a closer relationship with the teachers and the other parents?»; by observing it, it is clear that parents wish to had a closer relationship (intended as more frequent communication and more occasions to get to know the other subjects) with their children's teachers (41,2%) rather than the other parents of the class (27,2%). It must be remarked that almost half of the parents with sons or daughters attending the kindergarten (47,1%) manifested a stronger need for more contacts with the teachers and, at the same time, these parents are showing the lower interest in having more contact with other parents (only the 17,6%).

FIG. 3. Parents' answers to the question «Do you feel you need a closer relationship with the teachers and the other parents?» (Results in percentage)



By examining the open-ended questions that explored the reasons behind these answers it emerges a quite interesting scenario.

About the relationship with the teachers, the 163 parents who do not feel the need for a closer relationship with them, motivated their answers by providing the following main reasons: the teachers are already quite available (9,2%); there are enough tools to communicate with the

teachers (5,3%); there are already enough information (5,1%); I completely trust them: they are acting at their best (4,9%).

On the other hand, the 51 parents who answered that they would have had a closer relationship with the teachers offered these arguments: to have more discussion about my son/daughter's situation (10,4%); I wish I could have face-to-face relationship (8,5%); I wish longer talks with them (7,4%); I would like to meet them and better getting to know them (5,5%).

Regarding the relationship with the other parents, 217 parents reported that they do not felt the need for a closer relationship with them by offering these motivations: the chat-group is enough and works fine (10,6%); there was already a good relationship before (8,8%); I do not need confrontation (6,9%); seen the pandemic situation, it is ok as it is (2,7%).

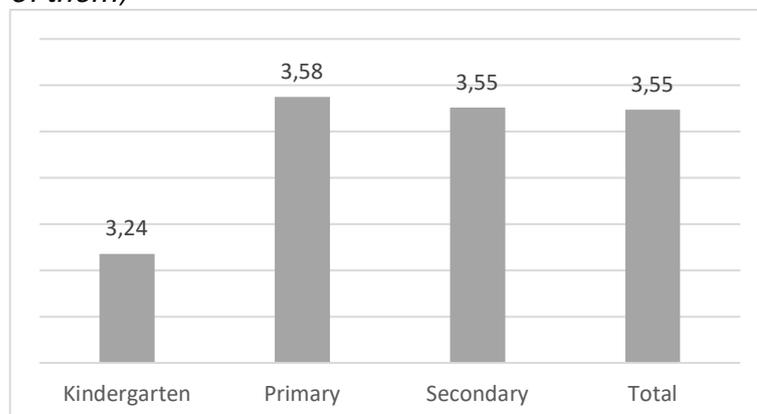
To complete the picture, a group of 29 parents stated that they would have preferred a closer relationship with their peers by providing the following motivations: I need confrontation with other parents (9,2%); I miss human informal relationship with other parents (4,4%); I would like to meet them and better getting to know them (3%).

Digital platforms used and practices

This paragraph will describe the parents' practices and the use of digital platforms for school-related communication purposes.

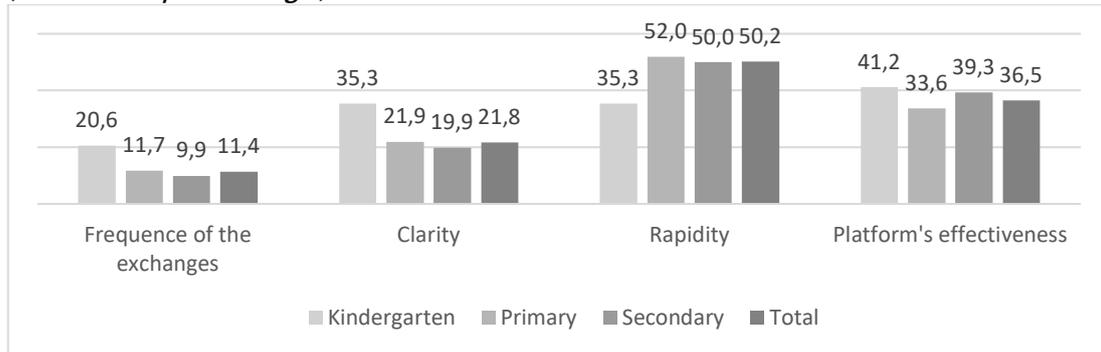
The first topic addressed is how much parents can follow and read all the communications from the school. As one can observe from FIG. 4, the general level of access to the communication is fairly high (average Likert level 3,55 on a scale of 1 to 4), and although every value is included in the range between 3 and 4, the kindergarten parents are those who present the lower level of access (3,24).

FIG. 4. *Parents' answers to the question «Can you read all the communications that the school sends?» – Likert scale: 1(I lose all of them)-4(I manage to read all of them)*



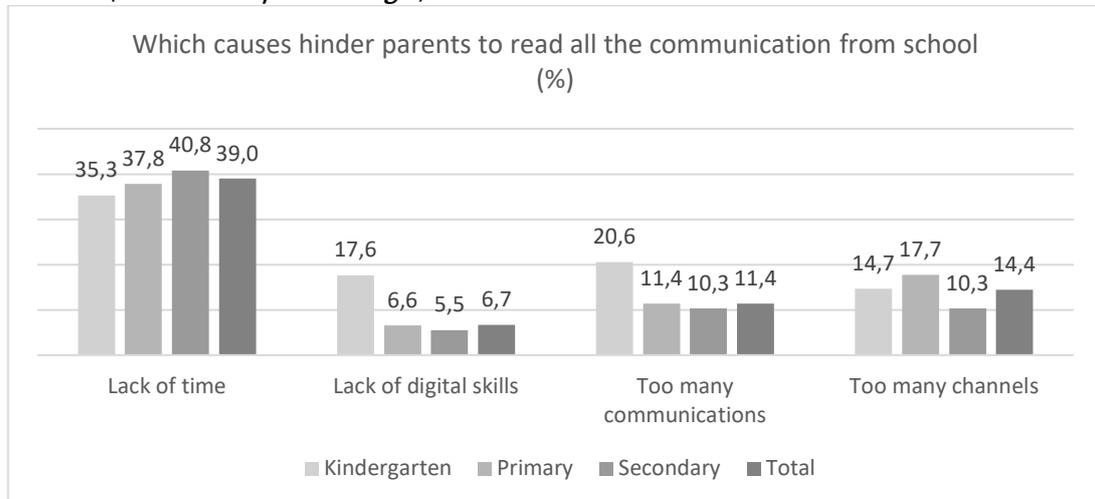
Among the aspects more appreciated by parents in school's communication modalities we can list the rapidity (50,2%), the e-platform's effectiveness (36,5%), the clarity of the communications (21,8%) and the frequency of the exchanges (11,4%).

FIG. 5. Aspects more appreciated by parents in school's communication modes (Results in percentage)



One further element explored by the survey was the causes that may hinder parents to regularly read the communications that the schools deliver. It appears (FIG. 6) that the main cause is the lack of time (39%), followed by the presence of too many channels to follow (14,4%), the presence of too many communications (11,4%) and, ultimately, the lack of digital skills (6,7%).

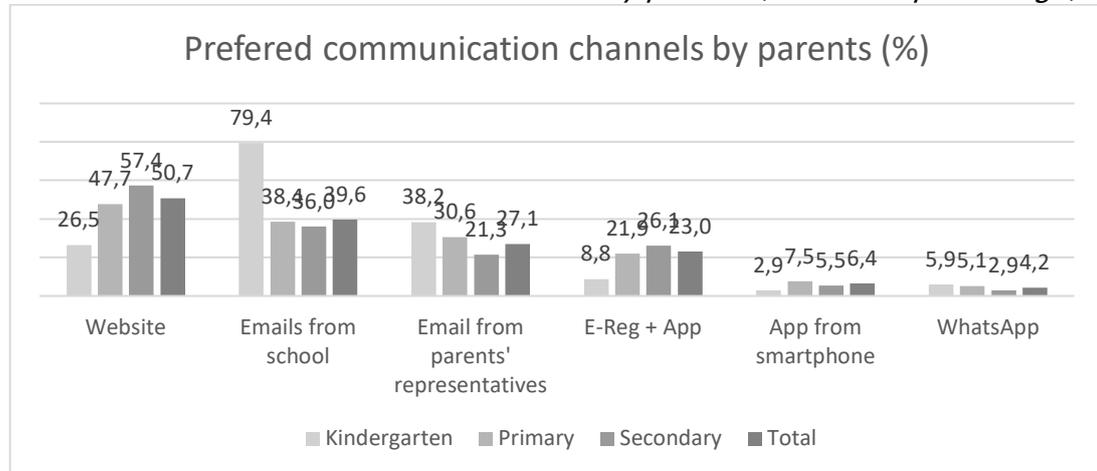
FIG. 6. Causes that hinder parents to regularly read all the communication from school (Results in percentage)



Ultimately, we would like to present the parents' preferred communication channels, that can be observed in the following graphic (Fig. 7). The website and the official emails from teachers and school-principal are the two preferred channels (respectively 50,7% and 39,6%),

followed by emails from parents' representatives (27,1%) and e-register (23%). The use of smartphone to access to these communications does not seem to represent a habit for the parents who participated in the research.

FIG. 7. Preferred communication channels by parents (Results in percentage)



4. Discussion

The literature in the fields of parental engagement agrees that supporting the learning of young people requires communication between school staff and children's families (Goodall, 2016; Goodall, Vorhaus, 2011; McDermott, Rothenberg, 2004). Similarly to other education systems around the world (Selwyn, 2015), in our country, digital data management has become an integral part of school educational practices and school-family communication for some years now. The ability to share information and communicate in real time is certainly a resource that, particularly during the lockdown, allowed a certain degree of continuity in the school-family relationship (Blau, Hameiri, 2017).

The study explored how teachers and parents view the issue of school-family communication, answering the following questions: are teachers' and parents' digital competences enough to guarantee a good level of technology-mediated school-family communication? What is teachers' perception, in terms of usefulness, of ICT as a tool for communication between school and family and between colleagues? Are the communication protocols used by schools effective? How can school-family communication processes be improved?

The results, despite the various positive aspects emphasized by teachers and parents, like creating a new digital space for building 'community connections' between school and family, further enhancing the relationship (Rivoltella, 2017), highlight at least three significant elements on which to reflect in order to improve the communication aspects – in the sense of both simple giving/receiving of information and active dialogue between the two parties – between school and family:

cognitive overload of parents, organization among parents, problems in organizing communication.

4.1 Parents' cognitive overload

Lockdown, smart working, the lack of separation between work and private life forced us to practice more and more multitasking, causing, however, in many of us a considerable cognitive overload.

Numerous parents reported to lose track of notifications, especially if made only once and with too much of anticipation regarding the meeting date. More timely and repeated notifications (a few days before and on the day of the meeting) and including the meeting link again would be necessary.

Another problem experienced by some parents concerning online communication relates to the school's sending of attachments with inaccessible formats: some parents who open notifications from their smartphones might forget about them if they cannot open the attachments immediately. A solution could be to send attachments in a different or accessible format (e.g. PDF) that can be easily opened from any device.

In addition, parents who stated that the presence of too many channels might be the cause of their struggle in accessing SFC referred to a multiplication of the messages driven by multiple means: e-registry, school's website, email from teachers, email from parents' representatives, informal chatgroup, etc. It is interesting to remark that the parents who struggle the most in this scenario are the kindergarten ones, who also denounce the lower value in digital skills. One of the elements that can be identified as the cause of this trend is that, in the school where the research took place, the only section where technology was not used for SFC before the pandemic was kindergarten: during lockdown, all the face-to-face meetings with the teachers were suspended.

However, low parental digital skills seem to be a generalized problem at all school levels: while the majority of parents perceive themselves as competent in both the use of ICT and the level of digital competence, teachers identify the low level of digital competence along with the lack of appropriate communication tools in some families among the critical aspects of families' communication during the lockdown months:

there are still too many families who are not provided with suitable technology or who are not used to and unwilling to use technology to communicate with the school (teacher A, secondary school first degree)

one critical issue I have found is that unfortunately not all parents have appropriate technological literacy (teacher B, kindergarten)

This last statement seems to reflect the current Italian situation regarding the digital divide: despite the fact that 95.1% (ISTAT, 2019, 7; EUROSTAT, 2019) of Italian households with at least one minor have a broadband

connection and that ICTs such as smartphones, PCs, laptops, tablets are widespread and growing in Italian households (IPSOS, 2017), only 29.1% of Internet users aged 25-59 (assumed age range of parents who responded to the questionnaire) have high digital skills.

Furthermore, the absence of the «school ritual» in attendance in which to meet with teachers and parents in school settings or «moment set aside for it» with teachers during one-on-one interactions has certainly contributed to parents' difficulty in focusing on just that one thing.

In fact, if from one side teachers find online communication with families more functional in terms of immediacy, optimization of time, structuring of meetings, greater participation of parents in interviews and class meetings facilitated by smart working, on the other hand they identify some problematic factors, among which is the lack of human contact, which becomes a problematic factor, especially in the presence of immigrant families:

the lack of face-to-face relationships does not allow us to grasp non-verbal messages, and this is particularly critical in communication with foreign families, where the risk of mutual misunderstanding is high (teacher C, secondary school first degree)

4.2 Organization among parents

With regard to the organization of online communication between parents, the role of class representatives is fundamental to support school-family interaction but, at the same time, risks to be too much left to chance and sensitivity. In the majority of cases, despite the lockdown, class representatives have remained in continuous communication with teachers, and were available in case of need, often acting as reminders of online meetings with teachers or deadlines for other parents, inventing very efficient and original systems. In this sense, it could help to provide communication protocols to disseminate information among parents, training on the use of shared calendars, training on the use of communication tools officially recognized by the school (e-registry, school's website, email from teachers, etc.).

4.3 Communication organization problems

Finally, the third emerging element that needs to be better managed by the school is communication organization problems.

The importance of «curating» (Potter, McDougall, 2017) the school-family communication processes can also be seen in the words of the parents: it emerges the need to receive clear and unambiguous information from the school, for example by updating the class register in a timely and systematic way. This would greatly simplify the valuable work of class representatives. In addition, among the causes that may hinder parents to regularly read the communications that the schools deliver appears the presence of too many channels to follow together with the presence of too many communications. Consequently, it is important that school adopt a holistic, overarching view and practice

(Goodall, Vorhaus, 2011) in order to optimizing qualitative and quantitative of communications; moreover, the use of institutional communication channels for school-family communications only is required.

At the same time, it emerges as necessary to curate of and reflect on all aspects of school-family communication, even in secondary schools but no less important aspects, proposing a multichannel information strategy.

For example, provide notifications and alerts that serve as reminders of upcoming events, and provide «press release» type packages that parents can disseminate without danger of misunderstanding.

In addition, it seems appropriate to integrate Spaggiari's ClasseViva electronic register (currently in use in these schools) to allow the creation of appointments in Google Meet automatically, not only for meetings but also for individual conversations.

In conclusion, the main aim of implementing communications through technology is not simply to inform parents, but rather to involve them in decision-making processes and support their effective engagement in their children's learning. For this reason, training and workshop in the use of ICT, especially in digital communication competences, for teachers and parents must be considered an integral part of this process, with a view to highlighting its potential and managing its introduction and use.

Further actions that the research intends to implement are related to the co-design of protocols to support a fair and sustainable school-family communication (with differences depending on school level) and the creation of tutorials to support a better communication.

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School and Pandemic. For a digital literacy of teachers in the incoming training

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ABSTRACT: *The paper proposes a reflection on the new, possible development trajectories of teachers incoming training in the light of the experience with the COVID-19 pandemic. If in-service training remains an unavoidable need, due attention must be paid to teachers who are preparing to become teachers or who can still boast a few years of service. In order to understand the specificities, the requests and the training needs of those who are preparing to teach, or who has been teaching for a few years, in a critical time such as the current one, a survey was developed and discussed here. The results collected highlight, among other aspects, the need of the respondents for digital literacy and to improve their levels of management of the dynamics of teaching and learning online.*

KEYWORDS: *incoming teacher training, pandemic, technology*

1. The pandemic an opportunity for the teachers professional growth

The COVID-19 pandemic took the form of an absolutely unexpected event, which required the management of extraordinary problems, on several levels, also in terms of teaching practice.

In the last one and half year, we have experienced a complex and traumatic pandemic health emergency that has also produced a complex educational emergency. From a scholastic point of view, the changes caused by the arrival of COVID-19 virus in our lives have also made it necessary to rethink the teaching and learning processes.

We are painstakingly learning that, from a negative event, it is appropriate to emerge transformed, resilient, available for change (Paparella et al., 2020). Therefore the pandemic is an opportunity for growth also for teachers. This profession is called to become more attentive to the demands of the present time, more ready to respond to other possible emergency situations and with a more mature relationship with new technologies for teaching and learning.

In this way, pandemic can be an opportunity for the teachers professional growth.

The pandemic has shown the weak points of the Italian school system:

- Lack of technological infrastructures.
- Lack of skills in teachers to manage distance teaching and learning processes (CENSIS, 2020).
- Stress of teachers to adapt to an online learning environment (Kong, 2020).

As Lucisano (2020) argues, the health emergency has found an Italian school system already suffering, with a number of unresolved problems: the limited resources for the building situation, initial training and modalities of recruiting teachers, regulations governing the evaluation processes of students' achievement, etc. At the same time, the crisis seems to have accelerated the experience of using new technologies that can integrate and certainly not replace face-to-face training.

So, new tasks emerge for the teachers after the health emergency, and in particular are the following:

- Re-build the student-teacher relationship online.
- Manage digital tools to support the teaching activities.
- Respond to the changing needs of students.

2. The incoming teacher training tasks

In this complex situation, the initial training of teachers is confirmed as a phase to be taken care of with particular attention so that teachers become agents of change in the school.

For this reason, high-level pedagogical and technological skills must be required since the initial training phase:

- Plan distance learning.
- Conduct mixed (presence and distance) learning sessions.
- Have relational and empathic skills.
- Create motivational and emotional support to the students.
- Manage distance assessment.
- Discuss with experts and have continuous training.

The health emergency caused by COVID-19 offers new opportunities to implement possible changes in schools to improve learning-teaching processes beyond the current situation. One of the most significant space concerns the possibility to rethink teacher training by integrating organically methodological and technological dimensions (Calvani, Marzano, 2020).

According to Rivoltella (2010), we think that it is not the «information literacy» that must grow among teachers, but the «technological culture», rethink construction methods, representation and sharing knowledge. In fact, to manage the educational media, operational skills are not enough. Teachers need cultural and critical frames.

Consequently, teacher training becomes a space for action on the triple dimension of culture, policies and practices.

Teaching professionalism represents an essential element in the inclusion processes that are carried out on the basis of new forms of engagement, participation, interaction between all the actors involved.

Investing in professional development therefore becomes a choice of strategic importance not only in terms of teaching but also of education because it supports the processes of cultural and personal growth of students, with immediate repercussions on the context (Striano et al., 2020).

3. Incoming Teacher Training during Pandemic in Italy

We conducted a research on incoming teacher training in a pandemic era to understand the specificities, the requests and the training needs of those who are preparing to teach, or who has been teaching for a few years, in a critical time such as the current one. The research attention point was also on the relationship between teachers in training and technologies.

The research questions are the following: Why become a special education teacher today? What kind of skills are required? What are the difficulties in working with disabled students? How promote inclusion? What is the relationship between disabilities and new technologies, according to teachers? For those who are already teaching, how has been their experience on the distance teaching during the pandemic?

The sample interviewed is made up of 500 teachers in training phase, involved in on line specialization courses in special education, organized in three Italian Universities in the period October 2020-May 2021.

A multiple choice questionnaire was administered to approximately 750 teachers in the initial training phase. They attend teaching academic qualification courses (Active Training Internship, TFA) for support activities for students with disabilities in every school level (kindergarten, primary school, lower secondary school, upper secondary school).

TFA is a theoretical-practical training period that is activated at the main Italian universities and which, once completed, allows the teacher to obtain the necessary qualification to participate in school competitions as a specialized teacher on support activities for students with disability.

The teachers involved in the survey attended these courses in three distinct Italian universities:

- University of Foggia (Foggia).
- Link Campus University (Rome).
- University of International Studies (Rome).

The questionnaire, consisting of thirty multiple choice questions, was divided into the following sections:

- Motivation to teach and professional skills.
- Relationship with disability and the idea of inclusion.
- Relationship with technologies.

The processing of the results is still ongoing but we can provide here a summary of the main findings.

We are dealing with a sample of subjects with a prevalent age of 40-50 years, mostly female, whose last qualification is the high school diploma and whose current job position is a special education teacher with annual assignment.

Here we are interested in the answers given by the teachers to the last two sections of the questionnaire. 54% of the sample believe they have a good relationship with technologies and 68.2% consider them to have a positive impact on the teaching-learning process. Regarding the frequency of use of technologies, 44.9% of the sample uses them daily, 39.6% weekly and the remainder of the sample on a weekly and fortnightly basis. As regards the practices of using technologies, the interviewees make more use of them, in their way of teaching, to carry out research on the Internet, to prepare teaching materials, to offer presentations to students. The most used tool for this last purpose is the IWB (multimedia interactive whiteboard).

A critical point that emerged was the scarcity of IT equipment in schools, as confirmed by the scientific literature cited above.

When asked about teaching activities during the lockdown caused by the pandemic, the interviewees were not very enthusiastic about distance learning, complaining above all about relational difficulties with students.

Among the skills to be possessed, the relational empathic, pedagogical, psychological, and methodological ones are important. Who is already teacher, feels himself/herself scarcely involved with colleagues but well considered by all students. To encourage the inclusion of pupils with disabilities, they mainly use group work, peer tutoring, etc. In general, technologies are seen as important tools for inclusion. Teachers think their relationship with technology to be good. They use it daily. Technology is important to support students' motivation to learn, to relate with peers and to share knowledge with them. For teachers, technology is very useful for creating personalized activities for the student. In general, this is a sample of teachers who, in the initial training phase, «wants to grow» and feel they need to strengthen their skills in three main spheres: methodological, pedagogical and psychological, observational, relational and empathic.

4. Implications for the Practice of Teacher Incoming Training

Teachers should not only be oriented to a more assiduous and conscious use of technologies, but above all to the ability to mediate in the online learning environment, to use teaching strategies oriented towards autonomy, to be more open to discussion and debate.

What we are experiencing at school due to the pandemic, from our point of view, urges us to identify two operational paths to raise the quality of teacher training practices:

- a) Their inclusion in professional learning and training communities;
- b) The use of simulation in the professional training (Simone, 2021).

4.1 The Teacher and the Professional Community

The reworking, integration and transformation of professional knowledge is not a process that the teacher carries out in a solitary way. It is an action to be socialized with one's own school community, with other colleagues, in order to generate a «community of thought» (Michelin, 2019), a sense of belonging and sharing of good practices, action plans, intervention models, enhancing individual differences and the richness of mutual knowledge.

The teacher, today more than ever, needs to be part of a community of teachers, with whom to constantly interact, share operational strategies for solving problems, develop good practices to never feel alone in the face of the new challenges that the profession launches and also in the face of emergency situations. The sense of belonging to a professional community also arises from the need to be part of a group of people united by a shared interest or similar problems. The result is the opportunity to exchange information, socialize experiences, share approaches, reflect on practice, acquire stimuli for the development of their skills, producing innovation.

It has now been demonstrated the need to create training contexts where, alongside traditional training courses, there are other paths that stimulate reflection and the sharing of work experiences between teachers (Schuck et al., 2013; Mak, Pun, 2015).

Improving online teaching practices, building partnerships between schools and learning communities among teachers who are called to teach online (Carey et al., 2020) are useful also to inhibit their self-perception of isolation, of being alone in solving problems.

In this direction, in Italy, a virtuous experience is represented by INDIRE (National Institute of Documentation, Innovation and Educational Research) which, during the spring 2020 lockdown, has exploited the experience of accompanying schools along the processes of change and innovation gained in the years, and has designed activities and services aimed at teachers, students and families, focused on the value of the «Network» as a mentoring system. The Network of solidarity between schools («The school for the school») and the Network between Public Research Bodies («Public research bodies for schools») have contributed to the realization of a systemic approach to training support and improvement performance in the use of teaching methodologies and new technologies in the implementation of distance teaching and learning. The resulting communities now have structured bases, for shared contents, tools and methodologies, which allow to continue in a long-term, systemic strategy to support the development and implementation of digital teaching (Mangione et al., 2020).

4.2 Simulation in the Teachers Professional Training

The COVID-19 emergency has shown that, for teachers, adapting to an online learning environment, often unknown to them, has been stressful and tiring (Kong, 2020). It was necessary, among other aspects, to rebuild the student-teacher relationship online, manage digital tools to support the delivery of content and respond to the changing needs of students (Denton et al., 2020).

This situation highlighted two particular needs of teacher training, in all phases of their career: on the one hand, to develop strategies and criteria, to exercise skills and to implement useful skills in emergency situations; on the other hand, take advantage of adequate training programs that aim at promoting specific skills for teaching and learning online.

To meet both needs, a training methodology that is useful is the simulation.

As has been shown above (Simone, 2004; 2006), simulation (on line or face to face) is a place of exercise, experimentation and acquisition of skills useful for one's professional action.

Simulation can be used and understood as an «approximation»: gradual approach to reality, in order to achieve a greater understanding and management of meaning and actions. It is a methodology that, applied in the didactic field, allows to learn through exercise, experimentation and active reproduction of problems and situations according to an experiential learning model that strictly follows the steps represented by experimentation, analysis, reconceptualization.

The simulations, in the professional training, make it possible to experiment with every practicable alternative, develop skills and abilities, show expected behaviors.

The subject interacting in a situation characterized by simulation observes (on the screen or in a structured training setting in presence) the evolution of a phenomenon and, consequently, the behavior that the system expects from him, asks himself questions, refines problem solving skills, reflects on the causes and effects of one's actions and, thus, develops intrinsic abilities to decide and act independently (Amory et al., 1999).

The professional training, carried out through frontal lessons, may be insufficient in providing the teacher with the operational tools necessary to optimize their working practice. The theoretical knowledge thus learned tends to remain abstract because the teacher is unable to effectively connect theory to professional practice.

Periodic simulation experiences, in the professional training, become an opportunity for the teacher to perform preparatory exercises, to become aware of some problems, to gain confidence with certain tools and to develop strategies aimed at effectively managing a new situation.

In recent months, most of the teachers and students have measured themselves with distance learning for the first time. Some, on the other hand, in more virtuous situations, already knew what it was for having

carried out, on a regular basis, a few days of simulation of online teaching and learning sessions per year. This made them ready to face the eventual closure of the educational establishments for reasons related to disasters, pandemics, etc. (Whalen, 2020). Using the simulation has generated situations of considerable advantage.

The simulation, among other aspects, also represents a useful strategy to ascertain the responsiveness and that of programming and training planning of those who are called to work, involving everyone and raising awareness of the importance of systematizing the resources present in the group.

The simulated experience ends with the debriefing phase, from which reinforcement messages and improvement annotations are obtained. In this way, it is possible to transform the simulation into a source of learning, developing good practices, guidelines, regulatory documents, some criteria for managing subsequent emergencies.

5. Implications for Teacher Education Research

Only in recent times the professional development of the teacher become the object of pedagogical attention, of ministerial policies and of school governance. The current guidelines look at it as a long-term process, which includes regular opportunities and experiences planned in a systematic way in order to promote the growth of the teacher (Perla, 2016). Nevertheless, it must be acknowledged that, in the face of favorable and encouraging definitions of the profession, developed by the European Commission (2005) as «highly qualified», «fully placed in the context of lifelong learning» mobile in the European and international space based on partnership «and specific recommendations (European Commission, 2007), aimed at improving the quality of training in this sense, there are still some important gaps: the analysis of the teacher's professional development needs, the use of quality in-service training, the lack of evaluation of the outcomes of continuing education, the general, poor appreciation, in society, of this figure. There are also some gaps in the preparation of teachers, difficulties and lack of incentives in updating and training (OECD, 2005; TALIS, 2013; OECD, 2014).

In the near future we need to leave any emergency logic to aim for structural changes in the teaching training (Limone, Simone, 2020).

From our point of view, one of the keystones lies in the integration, in teaching practice and professional knowledge, of a digital pedagogy to be included on a permanent basis, and not occasionally, in teacher training programs at all stages of their careers.

The professional development of teachers is a complex and multidimensional construct, aimed at the expert rationalization of knowledge through training and educational relationship practices matured in situations over the course of professional and working life (Margiotta, 2010).

In the steps of the teacher's professional development, within the initiatives and procedures aimed at improving skills and professional performance, digital training is a need that can no longer be postponed.

It is now agreed that the lack of specific preparation in this sense, through the preparation of specific training courses (Limone and Pace 2016), inhibits the planning of quality educational itineraries; this can only generate additional difficulties in teaching and learning in times of emergency and also in usual teaching practice.

The development of information and communication technology has brought a surprising and revolutionary challenge to the idea and practice of traditional education. Internet technology offers new opportunities to integrate face-to-face learning with online learning methods. In the future, there is a trend towards using blended learning scenarios, combining various forms of learning and integrating a variety of ways to access content using mobile technology.

It is now necessary that the technological results obtained become part of the teacher's professional action, between presence and distance, through the reconstruction of new identity meanings recognizable only in the light of an authentic, meaningful and strategic learning on the part of the student (Entwistle, McCune, 2004).

The university, in this process, plays a fundamental role as a driving force for continuous training of quality teachers and to respond to the needs, not only emergency ones, of the present time.

University is asked to redesign the training courses that propose technologies not as simple teaching support tools, but as cultural mediators, capable of affecting the logic and practice of the university institution also with regard to higher education and research (Loiodice, 2011).

From the university institution training opportunities and experiences are hoped to make the teacher an effective protagonist of the complexity of scientific, methodological and technological innovation. Research, teaching and learning practices, student growth and social development will benefit.

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A Study of «Mission Hundred Percent» Success for Secondary School Students Through Self-Developed Standardised Digital Modules In India

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ABSTRACT: *Education is the backbone of any society and school is its axis. But the outbreak of pandemic has caused a sudden and shocking shutdown of schools, colleges and universities since March, 2020 and robbed the schools from the society. When whole educational world faced a confusing vacuum and to run education system for its survival, the academicians diverted towards digitalisation. Liguori and Winkler (2020) also suggested that innovative technological solutions by academic institutions can only help us deal with this pandemic situation. In spite of all difficulties and challenges especially in country like India, marvelous work was done by the school teachers. Under the supervision and guidance of administration and policy makers, they created digital module «Punjab Educare app», which is highly cost effective, teachers and students friendly and best suitable for the transaction of prescribed curriculum aiming not only to transmit information but to a greater extent develop certain skills, aptitudes and interest to continue education process in the most distressed times. The technology based digital modules were made available to all concerned in the secondary schools of Punjab state and the public in general, which have given excellent results for the academic achievement of the students and the system as a whole was evaluated and rated at 4.4 out of 5 point scale. These digital modules developed in this state have become a leading path maker and flagship in the country. So, the authors made this study to find the status quo of this innovation and its implementation, techniques of developing these curricular digital modules, the process of this innovative preparation of various teaching lessons and it's on time transmission. The records concerned with the administrative part, financial aspect, experts involvement, technological aspects were verified and are made available as part of this study. To verify its effectiveness, authors have conducted semi structured interviews of 20 teachers, 20 secondary school students, 5 administrators and 5 parents. It was inferred that teachers feel comfortable to use as it provides all learning resources at single platform. The dent and damage caused by the shutdown of schools was remarkably substituted to save the academic session of the students in time that too with appreciable level of learning. The administrators were satisfied to bridge the gap suddenly caused by the pandemic. The quoting of evidences and views of various stakeholders were video recorded. It has found that this type of technique and digitalised module innovation for curriculum are also possible for various other classes in the schools as well as in the teacher education*

institutions. It has already been started in leading institutions and are being followed as part of this investigation.

KEYWORDS: Digital Learning Module, Mission Hundred Percent and Punjab Educare App

Introduction

Education is the backbone of any society and school is its axis. But the outbreak of pandemic has caused a sudden and shocking shutdown of schools, colleges and universities since March, 2020 and robbed the schools from the society. To flatten the curve and control the transmission of the disease, lockdown and staying home strategies had to be followed as needed action (Sintema, 2020). When whole educational world faced a confusing vacuum and to run education system for its survival, the academicians deflect towards digitalization. Liguori and Winkler (2020) advocated the innovative technological solutions can only help the academic institutions to deal with this pandemic situation. In current scenario of COVID-19 pandemic, the contribution of information technology has gained momentum due to closure of educational institutions that raises challenges for students' learning (Zayabalaradjane et al., 2020), also asserted. During quarantine time information technology served the solution for the ongoing learning process through innovative and learning management systems (Nassoura, 2020) and provided an opportunity to pave the way for introducing digital learning (Dhawan, 2020). There was an overnight shift of classrooms into e-classrooms and educators too had to shift their entire pedagogical approach to adapt the changing situations.

During this tough time, the concern is not about whether online teaching–learning methods can provide quality education, it is rather how academic institutions will be able to adopt online learning in such a colossal manner (Carey, 2020). Online platforms were expected to facilitate (a) video conferencing with at least 40 to 50 students, (b) discussions with students to keep classes organic, (c) good internet connections, (d) accessibility of lectures in mobile phones as well as on laptops, (e) possibility of watching already recorded lectures, and (f) instant feedback and submission of assignments (Basilaia et al., 2020).

Rapid developments in technology have made distance education easy (McBrien et al., 2009). Most of the educational institutions are exploring and approaching to new techniques of e-learning to make it easy for students to work out in new normal. Also, various e-teaching software are being explored by teachers or educators to bring maximum possible ease for their students. The education departments around the world has virtually been venturing the best in ensuring optimum utilization of the advanced Information Technology in reaching out to the students to cater

to their educational needs and there is no doubt that there was not any other alternative than to follow the digital route to educate the students through virtual classes. Hence, the global wave of pandemic lockdowns, unprecedentedly boosted the e-learning and the virtual teaching and learning process through Zoom, WebEx, Google Meet etc. became popular.

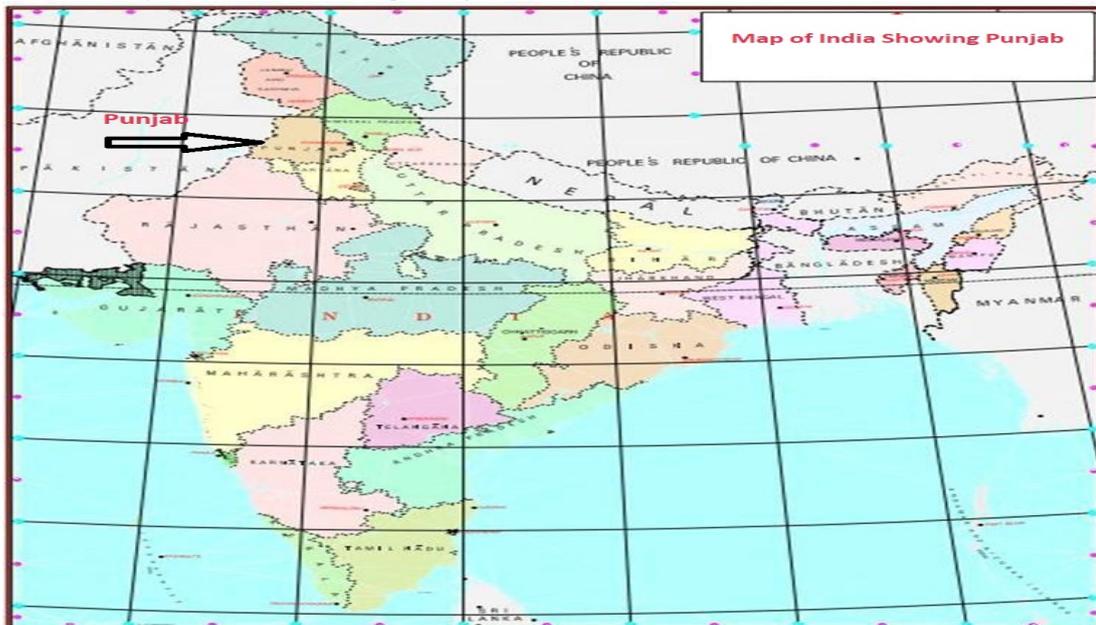
Review Of Related Literature

Yoon et al., (2012) stated that digital learning was first proposed by Jay Cross in 1999. With the advancement and development of technology tools, it emerged with different explanations and terminologies such as Internet-based training, web-based training, or on-line learning, network learning, distance learning etc. Mothibi (2015) examined the relationship between e-learning and students' academic achievement in higher education and found that ICT had a statistically significant positive influence on e-learning based students' academic achievements. The results also indicated that ICT had a significant positive influence on students' educational overall academic achievements. Wishart (2015) states that learning process through devices such as mobile/smartphones, iPods, MP3 players, personal digital assistants (PDAs) helps to enhance knowledge and learning outside of the classroom and also helps to develop the relationship between students and teachers. Learning through digital module facilitates the flexibility for accessing learning content for enlightening academic accomplishments (Olasina, 2018) and students get choice to learn at their personalized place, pace via convenient learning approach. And, learning has been found to have direct positive effect on learners' academic success, however, the influence is distinct when the teacher facilitates and pursue discussion towards main content (Wilén-Daugenti, 2009). The role of instructors is therefore, instrumental in removing the bottlenecks to students' outstanding educational learning (Alrasheedi, Capretz, 2015). One of the best features of digital learning is access to learning material with ubiquity, promoting flexibility in terms of location, place, time, speed and space (Andrews et al., 2011) and learning involves knowledge sharing, problem solving and one-to-one discussion, thus allowing for maximum extent of feedback among both the teaching and learning ends (Keskin, Metcalf, 2011). Students regard this form of learning as source of most «instant support» in online collaborative learning (Hamm et al., 2013). Analyzing the usage of digital learning modules for gaining prompt knowledge and its effect on academic performance of students in education industry has created remarkable interest for the researchers since previous years (Alrasheedi, Capretz, 2015). The digital learning practices also affect self-motivation to improve the quality of the learning.

Mission Hundred Percent

Referring to the closure of the schools due to pandemic, education department in the state of Punjab decided to improve the school education and empower schools in the state, an educational mission 'Mission Shat Pratishat (hundred percent)' in the state for academic session 2020-21 was launched. It focuses to educate all students, by all schools, literate all teachers digitally and to cover the whole prescribed syllabus. It aims at providing education to every student of the state despite shutdown (COVID-19 pandemic) and further strengthening the digital education infrastructure in schools through e-books, EDUSAT lectures, e-content, online classes, broadcast of lectures through television and video lessons prepared by the teachers. This mission was set for each and every student so that they are not deprived of education due to pandemic.

FIG. 1. Map of India showing Punjab state



For all this digital education program, a standardized infrastructure is needed at all levels. In spite of availability of a sea of online educational tools and platforms, both the educators as well as learners faced frequent hiccups while using or referring to these tools. Some broadly identified challenges with e-learning were- accessibility, affordability, flexibility, substantial issues with reliable internet connection and access to other digital devices. From the pool of digital devices, android phone emerged as a popular device for the teaching learning purpose and which was available with majority of the students and teachers. The use of mobile was harnessed to undertake this quickly adopted online mode of teaching. To strengthen the digital education and achieve target, it was pertinent to overcome the challenges and lessen the digital gap. Because of the economic disparity about one third of the student population was not having their own android phones but state government and other

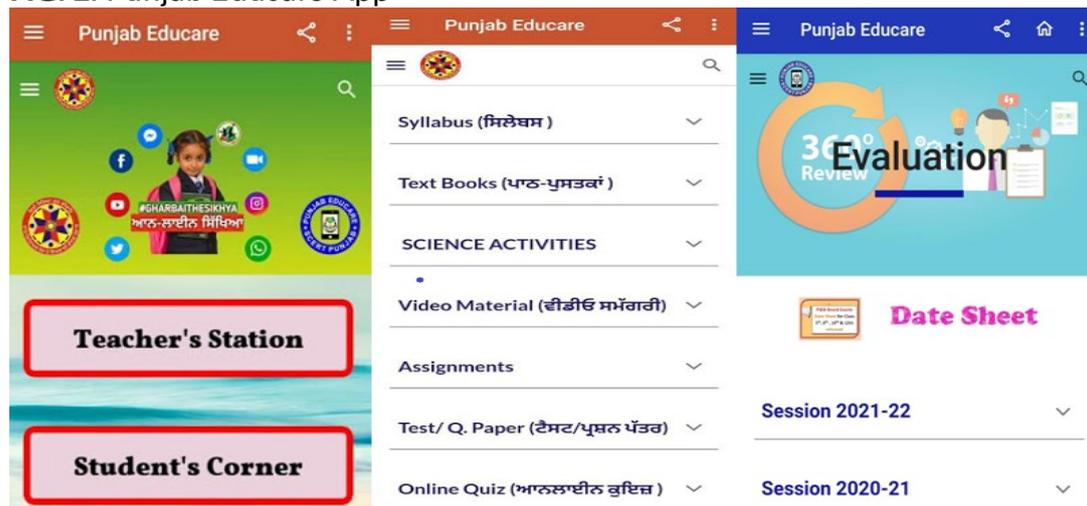
non-government organizations extended support by providing mobile/tablets along with internet connectivity to the needy students.

Digital Learning Modules

Digital modules are innovations that are used by teachers in teaching learning process. It provides learners with various modes of information presentation, such as texts, exercises, diagrams, animations, pictures, and so forth, that support learning and improve students' thinking skills and enable them to actively participate in exploring knowledge. Digital learning modules are complete units to support the learning activities that are structured to assist students in achieving a number of objectives or competencies (Christoyadi et al., 2016; McClean et al., 2016; Mirkouei et al., 2016; Ruipérez-Valiente et al., 2015). The use of the modules can drill the students' ways of thinking about the fact and relate them to other facts along with a logical reason. The use of modules in learning can help the students in solving problems independently (Christoyadi et al, 2016; Purnamawati et al., 2017). Digital modules serve various purposes such as increase students' motivation, understanding as well as retention of knowledge and assist the acquisition of domain-specific knowledge for this gigantic academic task, school teachers with the support of subject experts developed a unique module which was named as «Punjab Educare».

Punjab Educare: A Digital Module

Surviving the crisis with different approaches and digitizing of education made to realize the need to create a database of study material. Due to sudden shift from offline classes to online teaching, students as well as teachers faced many difficulties and technical glitches. Interestingly, a team of government school teachers from Jalandhar city of Punjab, having no IT background or expertise support, developed the 'Punjab Educare App' with their sheer dedication coupled with indigenous innovations. The app was developed by teachers out of professional duty through their own efforts and sources to keep the education system alive without any financial support from government as well as non-government sources and it was launched amidst first lockdown to help students in online learning. Soon it became the *epicentre of digital education in the state* and gradually adopted by many other states of India. The app was created with an aim to put an end to the students' worry of loss of useful study material that is being provided by the education department on a daily basis. It has also been termed as an online school bag for students due to availability of entire syllabus of class. Thus, Punjab Educare App has become a leading path maker and flagship digital learning module in the country. This app is updated at regular intervals.

FIG. 2. Punjab Educare App

Features Of Punjab Educare: A Digital Module

Punjab School Education Department has come up with this remarkable tool especially for the students and teachers of Punjab. A few key features of this digital module are as follows -

- A storehouse of learning material which includes all the study material of major subjects from Pre-Primary to XII classes.
- It not only contains online text-based learning material but also includes video lessons delivered by subject experts. It is compact, easy to access and encourages perfect coordination among teachers and students.
- It not only improves the efficacy of the teachers but keeps the parents also updated with their child's performance.
- Bilingual feature adds more convenience in its usage.
- Apart from interactive and virtual learning, it also includes English club, Thought of the day, Daily assignments, Udaan Competitive Exams Series, Question bank, Exam Series, National Talent Search Examination, National Means cum Merit Scholarship Scheme etc.

Research Objectives

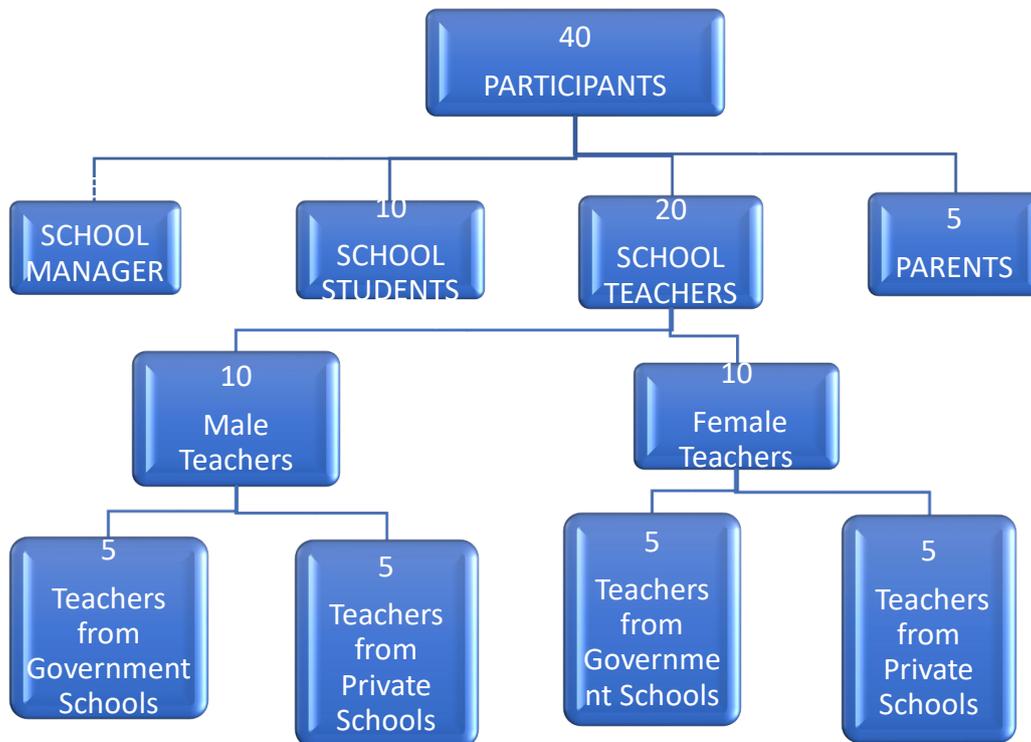
The main research objectives addressed in the study are as follows-

1. To find the status quo of this innovation and its implementation.
2. To investigate the techniques of developing these curricular digital modules
3. To explore the process of this innovative preparation of various teaching lessons and it's on time transmission.

Methodology

Qualitative case study method with quota sampling technique has been employed and data is collected through semi-structured interviews of 20 school teachers, 10 school students (2 students each from 8th to 12th class), 5 school managers (2 school heads and 3 block education mentors) and mentors and 5 parents from Punjab state.

FIG. 3. Sampling design



All the interviews were fixed with the consent of subjects after 6 months of onsetting online teaching through Punjab Educare App. Interviews were conducted virtually / telephonically with the selected subjects which lasted for about 15-20 minutes each. The semi structured interviews were organized by the teacher educators also the authors of this study. The conversations were recorded for further analysis. The purpose of talking to the teachers was to know about the process of production and implementation of this digital module; the strengths of this app and difficulties (if any) experienced by the teachers. It was decided to know the views and contribution of female teachers and male teachers as well.

As the students were working from their respective homes, it was felt necessary to interview some students to know the availability of digital gadgets, timings and response of the students. Moreover, in the lower classes, young children were not familiar with the operation of module, internet and e-learning contents so they needed the assistance of their parents. In fact, in the whole motivation process the involvement of

parents was very significant. So, the views of the parents were taken into account.

The initiation, monitoring, supervision and timely transmission was done by school heads and block education mentors. 2 school heads and 3 block education mentors were contacted to know their views about the smooth functioning and success of this module.

All the conversations were classified according to the respective groups and the recorded narrations were analyzed descriptively to know the purpose and usefulness of this app. Yildirim and Simsek (2005) have suggested that direct citations must be included in the descriptive analysis so that it can conspicuously reflect the interviews. The video recordings are preserved for further comparative investigation in future.

Results and Discussion

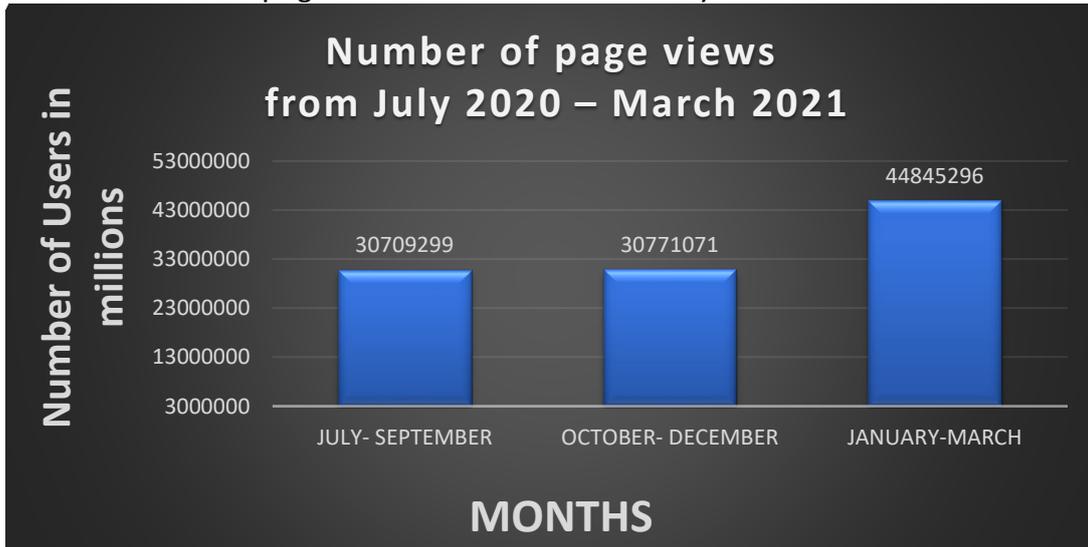
To find the status quo of this innovation and its implementation, teachers and school managers were interviewed and it was inferred that teacher feel comfortable to use this app provides all learning resources at a single platform. Subject A, a government school teacher stated,

This module is one stop solution to the issue of inaccessibility of the learning content and it provides systematically arranged study material including text books, video lessons, daily assignments in all the subjects at one platform.

Subject – C, a school head asserted that

Study material right from pre-primary to class XII is now just a click away. The district education department too is making efforts to promote the use of the app among teachers and students as all the required learning materials of all the classes are available as per the students' needs.

The technology based digital modules were made available to all concerned in the schools of Punjab state and the public in general which has given excellent results for the academic achievement of the students and the system as a whole was evaluated and rated with rank 4.4 out of 5 points scale. So far, the app has 2.5 million downloads with over 40 million users, 34.7 million sessions and 347.6 million page views. The students belonging to other states and union territories have been using and appreciating this user-friendly, navigated and open accessible app. Fig. 4 depicts the popularity of app.

FIG. 4. Number of page views from the month July 2020 to March 2021

Second research objective was realized through narrative enquiry for which school managers and block education mentors were interviewed. Subject B, a block education mentor asserted that

deadly pandemic effect disturbed the cognitive (growing knowledge) and non-cognitive (motivation, emotions, anxiety and values) behaviour of teachers, students, parents and school managers. But some of the school teachers of the state decided to surpass the situation and emerged with embodying leadership to undertake this challenge for the persistence of education system. In this project of mission 100% at school level, the leading role was played by one of the authors of this study working as a senior teacher in a school. A group of three teachers initially worked for the revolutionary change at their own level. They gathered some information regarding the use of digital platforms and creation of teaching modules, prepared a few video lessons with the help of their locally available gadgets in their respective homes and uploaded them on self-developed app and shared in their students' groups.

He further explained the next step of development of this app. He pointed that the students and teachers while using this module felt comfortable and found the material useful. In no time many more teachers from surrounding schools joined this group and started working on these digital lessons to be imparted in online teaching process.

The administrators in the state education ministry noticed this sparkling initiative and provided bigger responsibility to these teachers for the update of their work. This module was then named as Punjab Educare App and has been approved by State Council of Educational Research and Training (SCERT) and National Council of Educational Research and Training (NCERT) which are state and central regulatory bodies of education for its standard use. The teachers' motivation and enthusiasm propelled this project to novel heights and they emerged as national warriors for safeguarding the future of present generation.

The interview with all stakeholders depicted that this consummate innovation and its on time implementation assisted a lot for the continuation of whole teaching learning process.

To explore the third objective of the study, we gathered information from developers of this app who are working as teachers in government schools. They elaborated about the management of the app. Punjab Educare app is a reliable tool as the content is prepared by respective subject experts, scrutinized by veteran teachers and after careful monitoring the selected content is uploaded. Teachers and students can have hassle-free access to the syllabus, textbooks in PDF form, video lessons, worksheets, assignments, quizzes etc. which is all time available with them to fill the learning gap. Authentic assessments and on time feedback are pertinent components of the learning which are given adequate consideration in online learning too.

Through Punjab Educare App it has been ensured that students suffer no loss of studies, so their progress is tracked simultaneously with timely evaluation. All the teachers in state are leaving no stone unturned to achieve the target. A significant initiative taken by teachers in Punjab is creation of buddy groups. Every school from class 6 onwards set up buddy groups which consists 5-6 students each. Teachers of each class are appointed as senior buddies to work with the whole group. Each group works collaboratively in sharing study material, resolving technical problems and submitting work assignments. In spite of all these difficulties and challenges especially in country like India, this marvelous work has been done by the school teachers. So, the conversation with participants converges that since the very beginning, the study material through digital module has been provided to the concerned students well before the presentation by the teachers.

One of the parents of students who were interviewed, explained that

students' performance in all subjects has boosted as they are provided different type of content and illustrations of basic concepts in animation and video formats. Pictorial presentations enable them to easily grasp the knowledge.

Also, a school head expressed satisfaction for the app to bridge the gap suddenly caused by the pandemic. She stated that

the dent and damage caused by the shutdown of schools was remarkably substituted to save the academic session of the students in time and that too with appreciable level of learning.

The study has also revealed that the digital module has emerged as panacea to whole state and the Performance Grading Index (PGI) construe it as state Punjab state topped in National Achievement survey. PGI assesses accomplishments of states in school education based on data drawn from the sources such as Unified District Information System for Education and National Achievement Survey. National Achievement

Survey (NAS) is conducted every three years by Ministry of Human Resource Development (MHRD) in order to monitor the educational health of the nation.

FIG. 5. Scores in Performance Grading Index

PERFORMANCE GRADING INDEX State (Punjab) was scored on 70 parameters under 5 main heads		
5 Main Heads	Scores	Maximum score
Learning Outcomes, Quality	126	180
Access to School Education	79	80
Infrastructure and Facilities	150	150
Equity	228	230
Governance Processes	346	360
Total	929	1000

In Performance Grading Index states are scored on total of 1000 points across 70 parameters, which are grouped under five major categories that are- access (e.g., enrolment ratio, transition rate and retention rate); governance and management; infrastructure; equity; and learning outcomes (average score in subjects like science, languages mathematics and social science). The scores in Performance Grading Index (fig. 5) depicts that the state of Punjab has scored maximum scores (150 out of 150) in «Infrastructure and facilities» and second highest in «Access to school education» (79 out of 80) which is the result of government reforms, focus and commitment of all teachers and administrators. Hence, even during the lockdown uninterrupted education to all the school students was provided via digital module Punjab Educare App and successfully achieved the «Mission Hundred Percent».

Further Implication

It has been found that this type of technique and innovation in digitalized learning modules for curriculum are also possible for various other classes in the schools as well as in the teacher education institutions. It has already been started in leading Teacher Education institutions and are being followed as part of this investigation. Viewing the success and effectiveness of Punjab Educare App, similar module can also be developed for the teacher education which will constitute modules for pre-service and in-service teacher training programs.

Conclusion

The essence and results of this conversation clearly commended the efforts of school teachers and level of success of the students. The responses are indicative from the statistics shown in the tables as the number of daily users rose to millions. Teachers from Punjab has virtually transformed the unprecedented challenge into an opportunity to tap advanced sources of information technology. It is the need of the hour for all teachers and officials to overcome their inhibitions regarding use of latest IT applications as the new innovative methodology would continue to be fruitful even after the pandemic is over.

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**Active Learning in Classes.
Analysis of Technology-Enhanced Feedback
in School and University Contexts**

The Use of Data for the Educational Success of Students in Online Universities

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ABSTRACT: *Universities should use data regularly and systematically to identify high-risk students, target them with interventions, and evaluate those interventions' effectiveness. To attain these goals, we move from issues of access and content delivery to issues related to collaboration, personalization of learning experiences and participation of different stakeholders in forms of open education. The aim of this contribution is to illustrate a type of monitoring and data collection of students of Bachelor's degree and Master degree of the Italian University Line (IUL) on the Moodle LMS platform with the aim of providing feedback to students. Student monitoring will be done through a Moodle built-in model called «Students at risk of dropping out» that predicts which students might be at risk of non-completion (dropping out) of a Moodle course, based on low student engagement and the acquisition of log files from Moodle LMS, (students access, downloaded materials and interaction with the teacher, tutor, and other students). A statistical analysis was conducted starting from the log files coming from Moodle LMS of two degree courses. The analysis made it possible to identify students at risk of dropping out and to find affinities in their academic results and personal characteristics.*

KEYWORDS: *Feedback, Personalization, Drop out, Educational success, Learning Analytics*

Introduction

After COVID-19, online training was widely disseminated. This is also the case at university level. Telematic universities have had the advantage of being structured already to deal with this emergency and can be a valid model for observing how to make the course of study innovative and personalized. The university can be the place to experiment with

This paper stems from the collaborative work of the authors. In particular: Giorgio Cecchi is the author of the paragraphs 2, 4, 4.1, 4.2, 4.3 and Conclusions; Paola Nencioni is the author of paragraph 1; Chiara Giunti is the author of paragraph 3; Sara Mori is the author of the Introduction. Bibliography has been written collaboratively.

innovative teaching methods (Dipace, Tamborra, 2019), especially in online contexts where the learning environment lends itself to be particularly flexible. Personalization of learning can be a concrete resource for both teachers and students in these contexts. Particularly important is the personalization of feedback. Particularly important is the personalization of feedback in two directions. On the one hand, to prevent dropouts by strengthening the relationship between students and the university; on the other hand, to improve awareness of the learning path of the skills necessary for the development of professionalism. In fact customizing feedback through student monitoring is important not only for observing how students learn and allowing teachers to understand the best path for students, but also in order to predict future students' feedback and take action before a dropout occurs. Timely and personalized feedback will allow teachers to adapt to students' expectations regarding the contents of the courses and the teaching material and improve student learning experience satisfaction (Mbatchou et al., 2018).

This study stems from IUL (Telematic University of Studies)'s need to understand how to observe student behaviors on the platform in order to predict behaviors and outcomes in terms of educational success. The university offers a training model consisting of lecture, synchronous, activities to be performed during the course and educational forums to participate in. The platform used is Moodle. The goal of the study is to implement a student observation model in order to improve the processes of ongoing orientation and student educational success.

The monitoring of students was carried out through orientation interviews, Path Tutors, Initial Student Data Collection, Platform Monitoring, Learning Analytics.

Students' log files will be used for understanding learning behaviors and their impacts on academic results and predicting students' grades and/or dropout (Agasisti, 2021), therefore they allow the teachers to offer a personalized educational response tailored to students' characteristics and needs. The present work is configured as a first step to refine a methodology that can enter into system in the university.

1. Online platforms in the university environment

In the last academic year many Italian universities massively equipped themselves with e-learning environments following the restrictions imposed by the social distancing linked to the Coronavirus. Although there were many theoretical contributions in the field of e-learning in Italy as well – see Trentin's pioneering investigations in the field of teacher training (1999), but also the reflection on the theoretical models and scenarios of e-learning deepened by the studies of Calvani and Rotta, (1999, 2000); Trentin, (2001, 2004); Rivoltella (2003) and on methodological and didactic aspects (Trincherò, Todaro, 2000, 2003;

Galliani, Costa, 2003; Maragliano, 2004). Many educational institutions, schools and universities, had not developed over time a reflection on the use of online environments for teaching and in the face of the new pandemic scenario felt the need for support. INDIRE, IUL and other research bodies have launched numerous support initiatives in this sense, and SIREM - Italian Association on Education and Media (A.A. VV. 2020) has proposed ad hoc school and university guidelines that have focused attention on the methodological, communicative, technological and didactic aspects to be considered in an online training and, no less important, on the supervision of communication by setting up channels of interaction through which students could dialogue with teachers and colleagues, exchange doubts and share anxieties and difficulties.

E-learning has been an element of innovation and development for the university system only since the end of the 1990s (Rivoltella, 2008) but has not been a mass phenomenon. Some universities have created academic structures delegated to methodological, technological and didactic research and to the implementation of e-learning systems, on the one hand in order to set up distance learning degree courses, but also to encourage the integration of didactic technologies to support even the more traditional classroom teaching.

Starting in the 2000s, in correspondence with the emergence of telematic universities, a new debate developed around the quality standards that had to be guaranteed in this mode of study as well (Ardizzone, Rivoltella, 2003). However, this has been a slow process that has received wide attention in the last academic year for the reasons already mentioned.

In the case of telematic universities, the reflection on the methodological and didactic aspects and on the use of an e-learning platform functional to the didactic objectives has instead represented the starting point on which to question ourselves. The identification of an online learning platform designed to support remote working and interaction methods is in fact a key element for the functioning of the online university. The IUL university has structured the online working environments for students by basing its teaching choices on a working philosophy oriented towards effective learning, which supports the student throughout the university course undertaken. The choice of the technological infrastructure of reference is an element that characterises the peculiarities of online courses delivered in e-learning mode and represents a very important choice, but it is not the only element to be considered when setting up a training offer in online mode. A fundamental element for effective online teaching is to rethink the lesson script, providing for interactive phases/activities and online support for students to guide them along the study path. Distance learning cannot just be about delivering content, there must be work phases in which students can interact with each other and with teachers. It is necessary to design a didactic proposal that goes beyond the contents to be offered and that reflects on the methodologies to be used and the working

methods. The IUL university has carried out this type of reflection since its foundation by choosing a methodological approach that places student learning at the centre of the educational proposal rather than teaching; the student is put in a position to take a conscious and responsible stance with respect to his own learning, harmonising and bringing together all the internal and external resources available, that is, putting into play participation, reflection and collaboration. The didactic model proposed (De Rossi, Ferranti, 2017), is context-oriented, it follows a background theoretical framework based on the ecological paradigm and the constructivist one, the focus is on the organisation characterised by formats, techniques and tools aimed at favouring the active development of the training potential of knowledge and skills, towards competences.

Among the many open source platforms available, IUL has chosen to use Moodle (Modular Object-Oriented Dynamic Learning Environment) which supports traditional classroom and online teaching. Moodle boasts a vast community that guarantees the updating and enrichment of its functions worldwide. Because of its characteristics (Marconato, 2011), Moodle is one of the most widely used e-learning platforms in the university sector, widely disseminated, offers excellent technical support, and offers users the possibility of customising its offerings. IUL adopts completely distance working methods, guaranteeing the students the support of a tutor who accompanies the teacher during the course and favours collaborative working methods. The training model adopted by IUL focuses on didactic choices oriented towards interaction and collaborative activity, and it is therefore of great importance that the platform supports these processes. Within Moodle, users can use various interaction tools that are available on the platform itself, or can be integrated with external links to free platforms, or those with paid licences, which allow for synchronous (video-audio conferences, video-audio conferences in virtual classrooms, chat) and asynchronous (messaging and forums) modes of communication and which allow interaction between the various actors registered in the system (trainees, tutors, teachers, administrators).

Among the asynchronous communication tools available in Moodle, the following are particularly significant: forum and internal messaging, which allow deferred interaction characterised by text messages that can contain images and links. The IUL training platform offers the possibility of taking advantage of tools for synchronous interaction, in real time, between the members of the training environment and allows the creation of invitation-only events in which participants can dialogue using audio and video and share materials, or interact in synchrony through a chat. The communication that develops thanks to these modes of interaction lends itself to rapid confrontations characterised by the need to define and deal with the issues to be addressed during the meeting within a set timeframe.

2 Student monitoring: the acquisition of log files from Moodle LMS

Universities, especially online ones, have a huge amount of student data. Universities should use data regularly and systematically to identify high-risk students, target them with interventions, and evaluate those interventions' effectiveness (Von Hippel, Hofflinger, 2020).

Learning Management System (LMS), Moodle, in the case of IUL, is the online platform that students access to follow the lessons, download the teaching material and to communicate with each other and with the teacher. It automatically collects a large amount of data. These data are called log-files and they can be used to understand learning behaviors and to predict students academic results (Agasisti, 2021).

Starting from the academic year 2020-2021 it was decided in IUL to collect the log files of students enrolled in two courses of two different degree courses.

Each log file contains the following information:

1. Date and time of access to the platform.
2. User name.
3. Name of the user involved in the action (if expected).
4. Event context.
5. Type of action taken during access to the platform.
6. Short description of the action.
7. IP address.

The pattern that will be followed for this study will be this:

Data available → Data analysis → Theory/Validation.

Through appropriate statistical analysis of these data we will be able to predict the risk of dropping out of students and the grade to the exam.

3 Characteristics of the Moodle model *Students at risk of dropping out* in the detection of the At-Risk Student

Teacher feedback is another important dimension in developing students' knowledge and competencies. Beginning in version 3.4, Moodle implements a built-in learning analytics model called *Students at risk of dropping out* that predicts students who are at risk of non-completion (dropping out) of a Moodle course, based on low student engagement.

This model was implemented in Moodle LMS with regard to two IUL online courses (Psicologia Generale and Attività Sperimentali per la prima infanzia a.a.2019/2020) in order to identify those at risk of failure before the final exam.

The «Students at risk of dropping out» prediction model uses the *Community of Inquiry* theoretical framework (Garrison et al., 2010) based on three dimensions of student engagement: *cognitive presence*, *social presence* and *teacher presence*.

*Cognitive depth*¹ and *social breadth*² are the indicators and the predicting factors used in this prediction model to identify students at risk of failure in Moodle courses.

The prediction model assigns a maximum potential value of cognitive depth and social breadth to each activity module (Fig. 1).

FIG. 1. Array of the level of cognitive depth and of social breadth for each activity



Source: https://docs.moodle.org/38/en/Students_at_risk_of_dropping_out

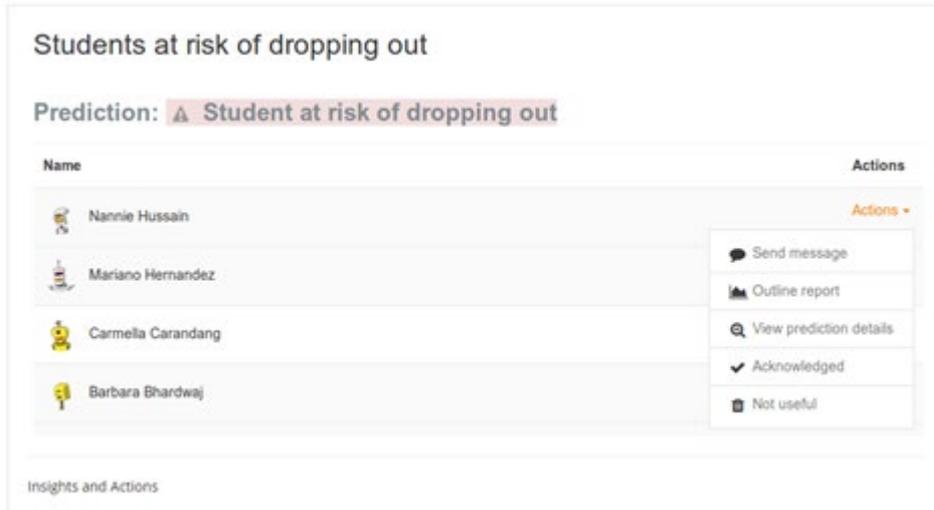
The level of depth ranges for both indicators are from 0 to 5. Regarding the first indicator, *Cognitive depth*, 0 indicates that the learner has not even viewed the activity, 5 indicates that the learner has revised and/or resubmitted content to the activity. Regarding the second, indicator *social breadth*, 0 indicates that the learner has not interacted with any other participant in this activity, 5 indicates that the learner has interacted with people outside the class, as it happens in an authentic community of practice.

This model allows predictions for each student enrolment in a course: *student at risk of dropping out* or *student not at risk of dropping out*. Insights allow teachers to identify students at risk of dropping out through notifications based on learning analytics data and dashboards, customizable pages for providing details of students progress (Fig. 2, 3).

¹ «The extent to which the participants in any particular configuration of a community of inquiry are able to construct meaning through sustained communication» (Garrison et al., 2000).

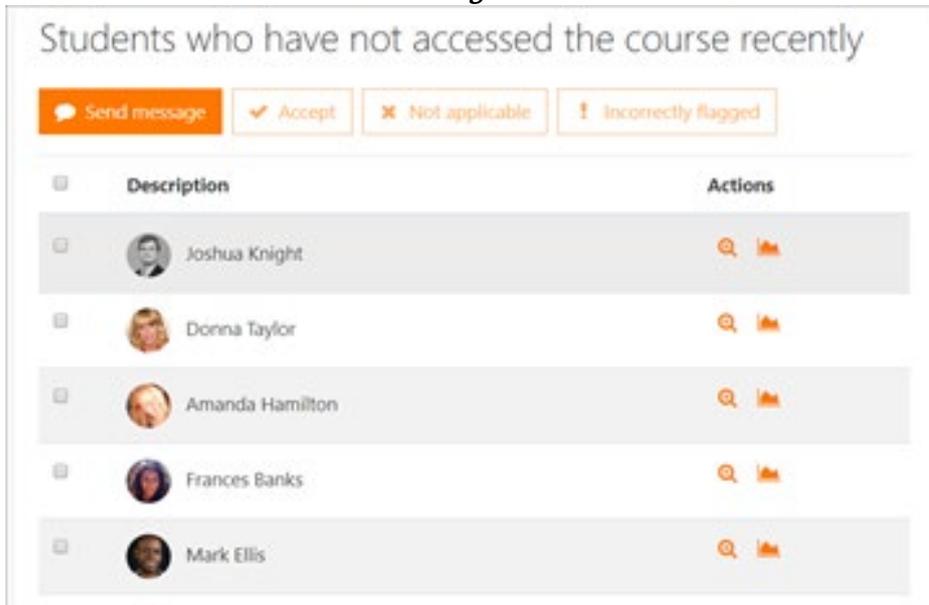
² «The ability of participants to identify with the group or course of study, communicate purposefully in a trusting environment, and develop personal and affective relationships progressively by way of projecting their individual personalities» (Garrison et al., 2000).

FIG. 2. *Dashboard for monitoring students at risk of dropout*



Source: https://docs.moodle.org/38/en/Students_at_risk_of_dropping_out

FIG. 3. *Platform access monitoring dashboard*



Source: <https://moodle.com/it/news/analisi-moodle-learning-aumento-studente-engagement/>

This kind of dashboards are reporting tools that visualize real-time data on student engagement and student access and frequencies to access to the course based on a pre-set range assisting the early detection of at-risk students.

The *students at risk of dropping out* function also activates a reporting system of the activities carried out in the forum that allows, through another visual interface (Fig. 4), to obtain information related to each student of the course: how many discussions they started, how many answers they sent, the number of attachments to published posts, the most recent posts, the number of views, the word and character count of published posts.

FIG. 4. *Dashboard with reporting student activities in the forum*

First name / Surname	Number of discussions posted	Number of replies posted	Number of attachments	Number of views	Word count	Character count	Earliest post	Most recent post
Amanda Hamilton	2	1	1	15	304	1677	Wednesday, 23 October 2019, 5:31 PM	Thursday, 24 October 2019, 9:09 AM
Barbara Gardner	2	4	0	28	269	1483	Wednesday, 23 October 2019, 5:43 PM	Wednesday, 23 October 2019, 5:45 PM
Francis Banks	0	2	0	10	169	841	Thursday, 24 October 2019, 9:10 AM	Thursday, 24 October 2019, 9:10 AM
Krigit	2	4	1	31	544	3000	Wednesday, 23 October 2019, 5:39 PM	Thursday, 24 October 2019, 9:06 AM

Source: <https://moodle.com/it/news/analisi-moodle-learning-aumento-studente-engagement/>

This easier detection of students at academic risk has great importance in improving students' performance and promoting learning. Assessing their difficulties and facilitating personalized monitoring, the model *student at risk of dropping out* and the use of dashboard reporting tools enable teachers to provide personalized feedbacks to the at-risk students to facilitate the reorientation of the process of learning. The teacher can use the platform messaging system to send them a message establishing positive relationships that generate a sense of belonging and challenge students to go further away in their learning (Faria et al., 2012). The role of teacher's feedback, by supporting students in overcoming their own difficulties, has been shown to increase students' engagement creating real possibilities of academic success and lower student dropout rates.

4 Statistical analysis

As mentioned in paragraph 2, starting from the academic year 2020-2021 iul has started a work of collecting log files through the Moodle platform for two courses: «Psicologia generale» of the degree course L-24 «Scienze e tecniche psicologiche delle risorse umane» with 127 students and «Pedagogia sperimentale per un digital learning formativo» of the master's degree course LM-57 «Innovazione educativa e apprendimento permanente nella formazione degli adulti in contesti nazionali e internazionali» with 36 students.

The collection of log files takes place every fortnight for the duration of the course in question. Once the collection of log files is complete, various analyses will be done to understand the behavior of students within the platform. With these results we expect to improve student-

teacher feedback, predict and improve student engagement and success in the course, and finally predict and prevent student drop-out.

4.1 A composite indicator for the student participation on Moodle

The first analysis that has been carried out is the creation of a composite indicator to measure the level of student participation within the platform.

This indicator is the result of a combination of three simple indicators that measure the time students spend on the platform, the number of interactions with platform content, and the number of interactions with other users within the platform, respectively.

The theory behind the construction of the indicator is summarized by the following scheme (Tab. 1)

TAB. 1 Scheme for the construction of the Participation index

DIMENSION	Time spent	Social breadth	Cognitive depth
INDICATOR	Mean time spent per platform access	Number of interaction with peers	Number of interaction with contents
DIMENSION INDEX	Time spent index	Social breadth index	Cognitive depth index

Each dimension index is calculated using this formula:

$$DIMENSION INDEX: \frac{(actual\ value - minimum\ value)}{(maximum\ value - minimum\ value)}$$

In the end the participation index is obtained by geometric mean of the three simple indicators:

PARTICIPATION INDEX:

$$\sqrt[3]{Time\ spent\ index \cdot Standardized\ social\ breadth\ index \cdot Standardized\ cognitive\ breadth\ index}$$

The index has a range from 0 to 1 and will allow students to be classified according to their participation on the platform.

The value 0 of this indicator means that the student has never accessed the platform, while values close to 1 indicate active participation within the platform. Teachers can use this indicator to identify students at drop-out risk and take timely action with appropriate feedback.

4.2 Cluster analysis

Cluster analysis is an exploratory method which consists in the search for the n p-dimensional observations of similar groups of units, not knowing whether these homogeneous groups actually exist (Zani, Cerioli, 2007).

The aim is to maximize homogeneity with respect to some explanatory variables within groups and maximize heterogeneity with respect to the same variables between groups.

In this analysis we will consider how variables to group students: the average time spent on the platform, the number of interactions with other

users and the number of interactions with contents and whether or not the student is part of a group for the carrying out of certain activities within the course.

The results of the cluster analysis were obviously similar to those of the participation index.

The algorithm used was the k-means algorithm. A non-hierarchical methodology has been chosen as they are preferable for populations or samples of high.

The best distribution found was in five groups for the «Psicologia generale» course: one composed of students who have never or almost never accessed the platform and who have not carried out group activities; a group composed of only one student with the highest participation rate of the course and who did not participate in group activities; and the other three groups formed on the basis of the level of participation and mixed in terms of participation in group activities.

The best distribution found was in four groups for the «Pedagogia sperimentale per un digital learning formativo» course and they are composed exactly according to the scheme of the «Psicologia generale» course.

Teachers by observing how their course students have been grouped can make further considerations based on their students' knowledge and see if they find other patterns within the groups that go beyond active participation on the platform.

4.3 Regression models

As a last analysis we decided to build two regression models: a general logistic regression model and a multiple linear regression model.

The purpose of the general logistic regression model is to study the relation between the probability of taking the exam on the first session and some explanatory variables of interest.

The purpose of the multiple linear regression model is to study the relation between exam grade and some explanatory variables of interest.

The exam session for the course «Pedagogia sperimentale per un digital learning formativo» has not yet started, so regression models were only made for the course «Psicologia generale».

The equation of the logistic model is: $\text{Logit } \pi_i = \alpha + x_i^T \beta_i$

Where π_i is the probability of taking the exam on the first session, and x_i^T are the explanatory variables: the number of interactions with contents, the mean time per platform access and a dichotomous variable that expresses whether the student has carried out some activities in a group or alone.

The following table (Tab 2.) summarizes the results of the logistic model. As we can see, the only variable that is statistically significant is the interaction with the contents.

We can therefore say that as the number of interactions with the course content within the online platform increases, the probability of taking the exam in the first session increases on average, although slightly.

The coefficient of the variable on the time spent on the platform is practically zero, so it does not seem to affect the probability of taking the exam on the first session. The coefficient of the variable of work in a group has a positive sign, so we can say that in this case it has been found that working in a group increases the probability of taking the exam on the first session, but the result is not statistically significant and could be given by the structure of the sample.

TAB. 2. *Summary of the results of the general logistic regression model*

Prob Chi2 = 0,000		LR Chi2 (3) = 29,53			n = 127	
Dependent variable: Probability of taking the exam on the first session						
Covariates	Coefficients	Standard errors	Z	P> Z	Confidence interval 95%	
Interaction with contents	0,0057	0,0014	3,99	0,000	0,0029	0,0085
Mean time	-0,0002	0,0097	-0,02	0,981	-0,0193	0,0188
Work in group	0,0702	0,6107	0,11	0,908	-1,1268	1,2672

The equation of the logistic model is: $y_i = \alpha + x_i^T \beta_i$

Where y_i is the exam grade, and x_i^T are the explanatory variables: the number of interactions with contents, the mean time per platform access and a dichotomous variable that expresses whether the student has carried out some activities in a group or alone. The model considers only the students who took the exam on the first session (25).

The following table (Tab. 3) summarizes the results of the linear regression model. As we can see, no explanatory variable was statistically significant.

The variables of content interaction and time spent on the platform are practically zero so they don't seem to affect the exam grade.

The variable of working in a group, on the other hand, has a positive sign so in this sample, working in a group increases the exam grade on average by almost one point, but this being not statistically significant could be due to the structure of the sample.

It is necessary to remember that the students included in the latter model are only those who gave the exam to the first session, which as we have seen in the logistic model are also those who have interacted most with the contents of the course. It is therefore reasonable to assume that once all the students are considered, the results of this model change, confirming the theory that as interactions with the content and the time spent on the platform increase, the exam grade increases, as well as for students who have worked in groups.

TAB. 3. *Summary of the results of the multiple linear regression model*

R-squared = 0,09		F (3,21) = 0,70			n = 25	
Dependent variable: Probability of taking the exam on the first session						
Covariates		Coefficients	Standard errors	t	P> t	Confidence interval 95%
Interaction	with contents	-0,0002	0,0015	-0,16	0,874	-0,0034 0,0029
Mean time		-0,0008	0,0164	-0,05	0,957	-0,0349 0,0331
Work in group		0,9459	0,6916	1,37	0,186	-0,4924 2,3843

Conclusions

Learning is a multidimensional concept: many variables, quantitative and qualitative, contribute to the realization of learning.

The learning analytics approach and in particular the study of log files certainly has many merits: the velocity at which data can be collected and the amount and variety of data that can be collected and analyzed. A statistical approach to the study of learning is certainly indispensable to synthesize and understand what are the processes and results of students' online learning. With statistics it is therefore possible to discover the relation that exists between the various variables that contribute to the definition of learning, but it can hardly be said that there is a causal relation between them.

Once the synthesized learning outcomes have been observed, the important variables in these processes and how they interact with each other have been discovered, it is necessary that the actors who are part of this process, the students and teachers, using the results of the statistical analyses, make specific and personalized considerations about their learning path and how to improve the quality of feedback between them.

Universities, especially online ones, have a lot of data available on students. Unfortunately, often this data is never analyzed and never turns into statistical information, which could become the basis for improving feedback between students and teachers and improving students' university performance. (Dipace, Tamborra, 2019).

Online group learning and the «social presence» are other important concepts that together with feedback contribute to the achievement of optimal online university learning (Kreijns et al., 2021).

A combination of up-to-date data collections, precise statistical analyses and research into new teaching methods for online learning lead to improved feedback between teachers and professors and improved student academic performance.

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'Classi in Rete'. Rethinking Education in Small Schools. An Experimental Research in Abruzzo

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ABSTRACT: *The school today is organized according to a specific configuration dating back to the sixteenth century and definitively established during the nineteenth century, called by Vincent (1994) the «dominant forme scolaire». However, there are other organizational forms developed above all in rural areas and typical of «small schools». Studies demonstrate how the adoption of network technology in teaching can better integrate remote students' classroom (Hannum et al., 2009) and out-of-school activities (Hawkes et al., 2002; Panizzon, Pegg, 2007), but it requires a support action for the teacher preparation (Azano et al., 2019). INDIRE, in collaboration with le Centre scolaire du Fleuve et des Lacs (Ministère de l'éducation et de l'enseignement supérieur du Québec), Italian Univeristy Line (IUL), Ufficio scolastico Regionale (USR) Abruzzo and an expert of University of Valle d'Aosta, is engaged in experimenting innovative methods to help small schools teacher to overcome the limits deriving from remoteness (Mangione, Cannella, 2020). «Classi in rete», Classes on the net, model originates from the study of a Québec government initiative called École éloignée en Réseau (Allaire et al., 2009) and it is based on classrooms as Knowledge Building communities (Scardamalia, Bereiter, 2010; Cacciamani, Messina, 2011). Delocalized classes aim to design a common disciplinary path involving student groups in parallel in the same activities by adapting calendars, spaces and teacher roles. Teachers of delocalized classes share cooperative educational practices such as «pairs aidants», «mentorat» or «delocalized equipe» by using Video conferencing and Knowledge Forum (KF) (Mangione, Pieri, 2019). This study aims to implement a hybrid model (combining online synchronous, asynchronous and face-to face activities) to work with classrooms as Knowledge Building communities, inspired to «Classi in rete» framework, and to analyse the propensity for change by small school teachers involved in the project as an indicator to evaluate the impact of implementation. It explores the training and experimentation path that involved 12 Abruzzo small schools, 11 digital animators, 31 teachers, 6 observers (school principals). The path recalls MOOC-Eds (Clark, 2014; Kleiman et al., 2015) space were digital animators and teachers able to think about the model, to identify application contexts and themes on which to build twinning between different schools and classes. In this space teachers able to reflect through the construction of «notes»*

Giuseppina Rita Jose Mangione wrote 2. Method, Michelle Pieri wrote Introduction and Conclusion, Stefano Cacciamani wrote 3. Results and Anna Tancredi wrote 1. Classi in rete model.

in the KF and the participation in synchronous meetings with research group, receiving regulative feedback aimed at improving experiences in their classes. The «propensity for change by small school teachers» is identified with reference to the concept of readiness for change, defined by Armenakis (1993) as related to the beliefs, attitudes and intentions of members of the organization with respect to the need for change and the organization's ability to successfully make such changes. Through the application of MESI battery (Moè et al., 2010), and at the same time the qualitative analysis of the focus group made with some of the teachers who took part in the experience, will be possible to understand if and how the participation in the «Classi in rete» path promotes a change in the Motivations, Emotions, Strategies and Teaching routines of the teachers involved.

KEYWORDS: *small schools, «Classes on the net», knowledge building communities, knowledge forum, propensity for change.*

Introduction

«Classi in rete», Classes on the net, model originates from the study of a Québec government initiative called École éloignée en Réseau (ÉÉR), aimed at safeguarding small remote schools and ensuring quality education even in the most inhabited places isolated and difficult to reach. The Quebec Ministry of Education has instructed the Center facilitant la recherche et l'innovation dans les organisations (CEFRIO) to identify a solution to the problem of school closures in rural and isolated areas by exploiting the opportunities offered by new information technologies and communication.

Today, over 600 small schools join the Quebec network, which work together, also achieving results in terms of decreasing the feeling of professional isolation, access to an environment for personalized learning and development and mobilization of new professional skills. The model is based on the idea that «rather than closing a school, let's open it thanks to digital», to do this it is important to change the culture of the single class: putting it on the net, thus connecting it to other classes (a model different from that of distance learning) to enrich the school environment.

1. «Classi in rete» model

At the basis of «Classi in rete», «Classes on the net», a hybrid model (combining online synchronous, asynchronous and face-to face activities), based on the idea to work with classrooms as Knowledge Building communities (Scardamalia, Bereiter, 2010; Cacciamani, Messina, 2011), there are the following three pedagogical principles:

- The classroom as a learning community. An environment that fosters collaboration and is characterized by a particular class dynamic as it promotes respect, dialogue and mutual help. The pedagogical intentions, similarly to the learning intentions of the students, are formulated openly and all, according to their specific aptitudes, contribute to achieving the desired learning goal. Collective investigation activities are encouraged because they help to understand and solve problems that the teacher can relate to the course of study.
- Teach for problems. The study of authentic issues is the heart of the pedagogical approach of «Classi in rete». Teaching for problems means involving students on real problems while leaving room for their creativity and allowing them to deepen their individual and collective understanding of the topic.
- Promote dialogue through technologies. Involved in the study of a real and authentic problem, students are first invited to ask questions and express ideas about their understanding of the problem and then to improve all together the seemingly most promising ideas to better understand, or even solve the problem. The class dialogue, fueled by written contributions published on the knowledge forum and by verbal exchanges in the classroom or by videoconference, progresses as students analyse the various aspects of an issue, the results of a research and the data collected.

When an innovation such as «Classi in rete» is introduced in a scholastic context, it is important to consider the propensity for change of teachers, to analyse the impact of the innovation introduced.

The «propensity for change by small school teachers» can be identified with reference to the concept of readiness for change, defined by Armenakis (1993) as related to the beliefs, attitudes and intentions of members of the organization with respect to the need for change and the organization's ability to successfully make such changes.

This study aims to implement the «Classi in rete» model in a network of 12 Italian small schools, to work with classrooms as Knowledge Building communities and to analyse the propensity for change by small school teachers involved in the project.

Method

2.1 Participants

The participants at the beginning of the project were 12 schools, 31 teachers and 11 «digital animators». At the end they were 7 schools and 21 teachers from primary (N=14) and first level of secondary school (N=7), (M=1, Age: mean= 50, SD=6,6; years of teaching: mean=17,1, SD=8,95), 5 of them are «digital animators».

2.2 Context

The path of the project recalls MOOC-Eds (Clark, 2014; Kleiman et al., 2015) space where digital animators and teachers able to think about the model, to identify application contexts and themes on which to build twinning between different schools and classes. In particular, the project was supported by two online environments: Knowledge Forum (KF) and Webex.

KF is an online environment developed to support the production of knowledge (Scardamalia, 2004). KF provides specific spaces for discursive interaction called «view». In this spaces the members of a KB community can share their ideas, questions, and problems of understanding using notes, that is to say written messages. They can also build ideas onto other member' ideas/notes or answer questions posted by the other members using the build-on function. Views, notes, and build-ons are stored on KF, allowing the researchers/teachers to have access to, and analyse subsequently members' discourses.

In this space teachers were invited to reflect about the point of strength and weaknesses of the activity, and possibilities to ameliorate, during the development of the project. Also the students of the classrooms involved used KF to develop their KB activity.

Webex is an online environment supporting videoconferences, based then on synchronous communication, used in the project to support periodical virtual meetings among the classrooms involved in the same macro working groups (presented below).

The teachers were trained through Webex meetings with experts focused on the theoretical model and the online environments (Webex and KF) and aimed to share the projects realised by teachers and to improve them. The project was implemented in 4 phases:

- Phase 1. Start of «online classroom» experimentation – March 2021
- Phase 2. Progress of the «online classrooms» experimentation – April 2021
- Phase 3. Conclusion of the «online classrooms» experimentation – May 2021
- Phase 4. Follow up (October / November 2021)

During the path 4 macro working groups have been created on topics capable of making primary and secondary first degree work vertically:

- And then we went out to see the Stars again
- The Squares: the places of the heart
- About our story... let's tell about our countries
- Stories of ordinary (IN) DIFFERENCE)

The teachers, thanks to the work space in the KF, were able to think about the «Classi in rete» model, to identify application contexts and themes on which to build twinning between different schools and classes. Through the synchronous comparison spaces The teachers had the opportunity to meet with INDIRE Researchers, the IUL group, and Researchers from Quebec.

2.3 Measures

The propensity for changes was measured at a quantitative level through the MESI (Motivation, Emotion, Strategy and Teaching) questionnaires (Moè et al., 2010). MESI provide 9 scales that detect the following dimensions:

- 1. job satisfaction
- 2. praxes
- 3. positive emotions as teacher
- 4. negative emotions as teacher
- 5. positive emotions while teaching
- 6. negative emotions while teaching
- 7. strategies
- 8. self-efficacy
- 9. incrementality

Each scale consists of items asking to indicate the degree of agreement on statements or the frequency of use (in the case of the praxes and strategies), or the frequency of experience (in the case of emotions) in a Likert scale at 5 (scales 2-7), 7 (scale 1) or 9 points (scales 8 and 9). The questionnaire was administered before and at the end of the activity.

The dimensions of MESI questionnaires were explored in a focus group (with 4 teachers involved). Another focus group will be realized in July.

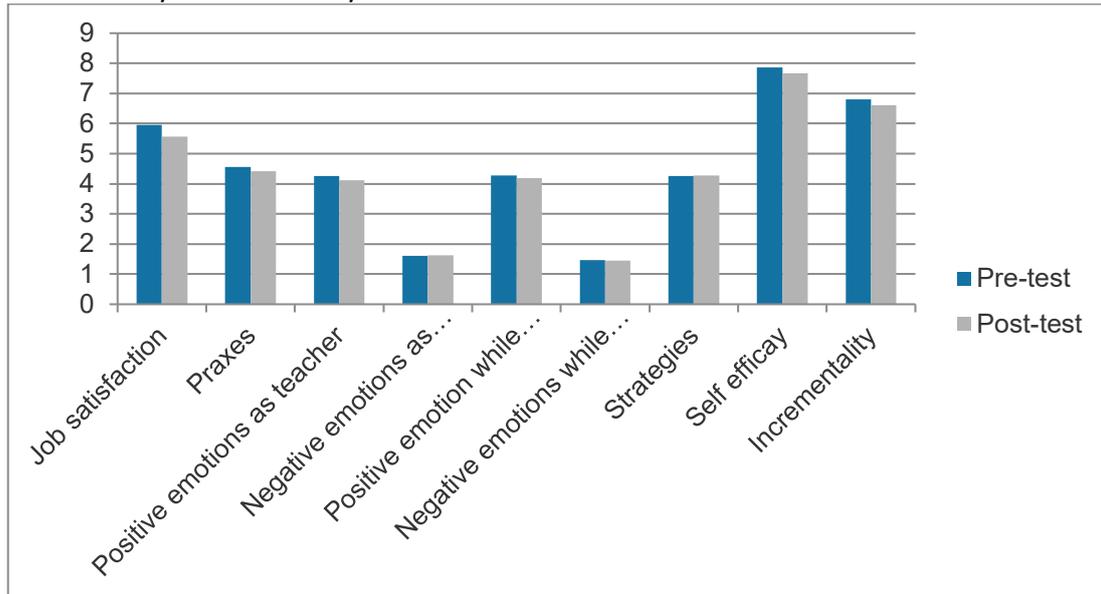
2.4 Data Analysis

For each dimension of the MESI the mean value was calculated and the data were analyzed by comparing pre and post tests through paired samples t tests. Only for the dimensions with significant statistical differences, a pre-post test comparison by means of paired sample t-tests for each item was carried out. As regards the focus groups, the content analysis of the transcripts was carried out.

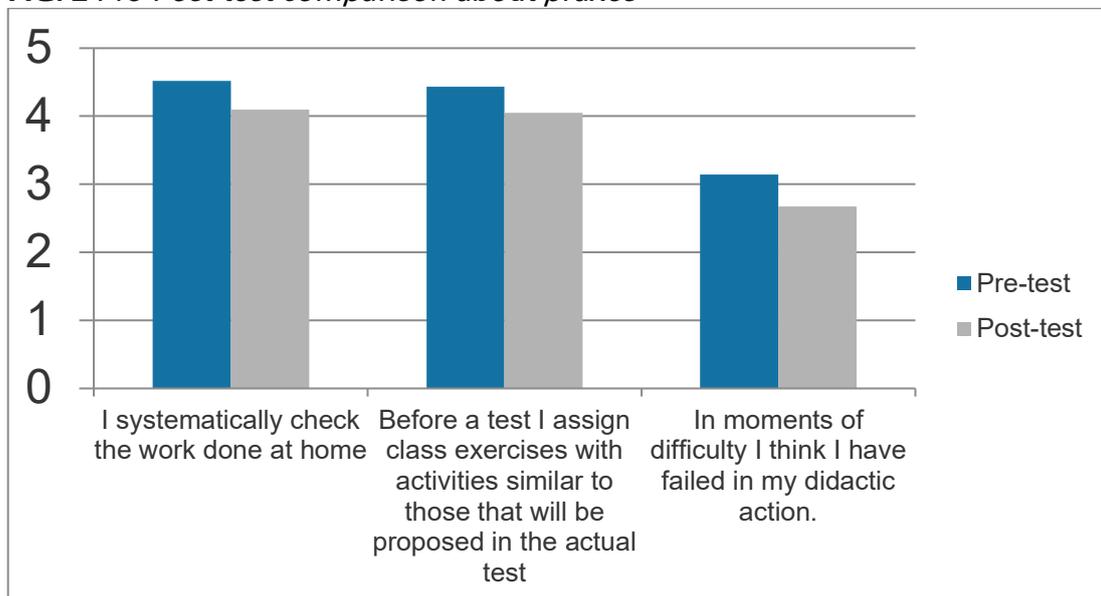
Results

The results about the different dimensions of the MESI are showed in Fig. 1.

A statistical significant difference emerged from the analysis about praxes $t(20) = 2.89, p < .01$

FIG. 1. *Pre-post test comparison about the dimensions of MESI*

The pre-post test comparison for each item of the praxes dimension is showed in Fig. 2.

FIG. 2 *Pre-Post-test comparison about praxes*

As showed in Fig. 2, statistical significant differences emerged with reference to the following items: «I systematically check the work done at home ($t(20) = 2,42, p < .05$), «Before a test I assign class exercises with activity similar to those that will be proposed in the actual test» ($t(20) = 2,96, p < .01$)» «In moments of difficulty I think I have failed in my didactic action» ($t(20) = 2,22, p < .05$)

The main results of the first focus group we have carried out- the second focus group will be done in July- are presented using the words of the teachers.

As far as satisfaction about teacher's role is concerned, you can see that the teachers on the one hand attribute this satisfaction to the values

present in the small school: «Working in small schools gives you this: working in a family, in an environment that still has values, where families rely on school», on the other hand to the fact that in the small school it is easier to experiment «It's beautiful, since the small school is a laboratory».

When it comes to emotions, teachers show many positive emotions such as pride, wonder and happiness. «I was happy with the involvement and motivation of children. I was proud of how they managed to move between classes with such different ages without being afraid. I was very proud». While negative emotions are mainly related to technological problems, «anger when the platform didn't work», and organizational problems, «At the end, when we had to reschedule the meetings, that was just the moment when I thought «I can't do it»». Thanks to this project, the teachers were encouraged to reflect and modify some teaching strategies and practices. «Thanks to this experience, I realized that I have the bad habit of oversimplifying and that the reworking phase has too little importance for me. I realized that I should leave more space for students, and I should make them more responsible». The teachers appreciated the use of the KF «It seems excellent to me using the KF as a tool, to allow children to be more authentic even in the formulation of their own hypotheses».

The teachers felt that they were playing their role well when they saw the students, all the students, actively and enthusiastically participate in the project. And when they saw that the students' autonomy and proactivity increased «the absolute autonomy and this space in which they feel free, the fact that there is no teacher and no evaluation».

The teachers believe that training is fundamental to their work and have greatly appreciated the «Classi in Rete» training path. Concerning replicability, teachers think the main obstacle to spreading this model is being able to make colleagues understand its usefulness. And in particular the teachers underline the usefulness of this model for small schools that often present environmental obstacles.

Conclusion

The aim of the present study was to implement the «Classi in rete» model in a network of 12 Italian small schools, to work with classrooms as KB communities and to analyse the propensity for change by small school teachers involved in the project in order to analyse the impact of the innovation introduced. Considering the results emerged from the analyses of MESI questionnaire we can highlight three relevant aspects.

First of all, the reduction of the frequency of the check of the work done at home can indicate the overcoming of separation between activity at school and at home. The collaborative investigation activity carried out, indeed, may have led to a rethinking of the work structure that typically focus the activity in the classroom on explaining a new topic and the

activity at home of carrying out a study activity on the topic. The collaborative investigation activity may have become pervasive in the two moments (at school and at home), as expected by the KB principle «Pervasive Knowledge Building» (Scardamalia, Bereiter, 2010) thus leading to rethink the functional distinction between them. Furthermore, the use of KF may have created the opportunity for teachers to continuously monitor the activity itself.

Furthermore, with reference to the reduction of the frequency of the praxis focused on the tests management («Before a test I assign class exercises with activity similar to those that will be proposed in the actual test»), it is possible that the project activity has activated a reflection to rethink assessment that must take into account not only individual learning but also the collaborative KB activity. As indicated by Zhu and Kim (2017) assessment in the KB perspective is, indeed, a complex activity involving both the individual and the community level with a wide range of tools, that can consider activity monitoring tools, social network tools, discourse level analysis and meta-discourse level analysis. Also the teachers of the present project, adopting a KB perspective, can have considered that is not possible to create artificially class exercises in preparation of a final test: assessment of individual knowledge gains and skills development realized through a KB activity demand a focus on the products created by the students during their activity where knowledge and skills are incorporated.

Finally with reference to the change in the reaction to moment of failure, the collaborative dimension between teachers introduced by the project could have favored the development of a sense of community (Rovai et al., 2004), supporting a new practice in which difficulties are not interpreted as individual failure at the didactic level but as a challenge to be faced at the teacher community level.

Results emerging from the focus group seems to confirm that the teachers perceive that they are part of a community, in their small school, with common values and positive relationships with families. Reflections and changes about strategies and practices seems to be oriented to recognize more responsibility to the students in their activity, and this choice, combined with the possibility to use KF in a freeway, can have promoted more students' autonomy observed by the teachers.

Concerning repeatability, the use of «Classi in rete» is linked to the integration of this model in the school as a pervasive and non-episodic way of working.

New directions of inquiry can be represented by the possibility to analyse the impact of the «Classi in rete» project considering the propensity for change both from the teachers' and the students' point of view.

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**Learning Ecologies.
Educational Methodologies in the
Relationship with The Space-Time of
Learning**

Rethinking the Space-Time of Learning: A Transformative and Democratic Opportunity for Education Systems in a Time of Pandemic

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ABSTRACT: *The COVID-19 pandemic has triggered an enormous transformative potential into our educational systems, offering an extraordinary opportunity to face the epochal challenge of sustainability. Emerging evidence has been gathered globally and paradigmatically reported and discussed by the International Commission on the Futures of Education, suggesting that the key to overcome this challenge is giving value to a cooperative and democratic school, which lays on a free, creative and empathic educational relationship between teachers and students, as well as on a shared responsibility with families, thus refusing resistance to change and bureaucracy-oriented processes which are top-down decided and often questionable. Into this challenge, whose endings are uncertain, requalification of the space-time of learning plays a central role, within the framework of growing multidimensional and digitally augmented Learning Ecologies, which work towards a cultural revolution for «ecosystemic relationality». An action research pathway realized in Italy, within the context of teacher training, is offering fresh ideas to rethink the categories of such requalification, looking at a space-time of active listening, reflective learning, transformative and transgressive learning, «immersive» and mindful learning.*

KEYWORDS: *space-time, transformative learning, democratic education, sustainability, pandemic.*

Introduction

The critical issues and opportunities of COVID-19 pandemic could not avoid giving momentum to the global debates on rethinking education. The extraordinary and transformative potential emerged within the field of educational systems has to be linked to the main challenge that humanity is facing, i.e. sustainability, global warming and its threatening effects in first place. As a consequence, the pandemic transition appears as *a corollary of the ecologic transition*, if not an extreme opportunity offered by the ecosystem as a way to speed up an undelayable change of direction.

As a model of development «that promotes economic growth alone» (UNESCO, 2017, 7) is definitively replaced, a «holistic and transformational education» is required, together with «an action-oriented, transformative pedagogy, which supports self-directed learning, participation and collaboration, problem-orientation, inter- and transdisciplinarity and the linking of formal and informal learning» (ibid.), in a perspective of lifelong learning which intertwines Education for Sustainable Development (ESD) and Global Citizenship Education (GCED). Transformative learning (Mezirow, 2000, 2016; Slavich, Zimbardo, 2012; Colazzo, in press) and transgressive learning (Lotz-Sisitka et al., 2015) must involve the integrity of a person as a whole, i.e. «the cognitive, socio-emotional and behavioural domains» (UNESCO, 2017, 11).

Within the framework of a revolution – and counterrevolution – emerging from educational practices actually implemented over the pandemic, a perspicuous dimension of enquiry is undoubtedly *the opportunity of requalifying the space-time of learning*, by giving value to situated, informal and learner-centered learning, by complementing the potential of digital in the configuration of a multidimensional and integrated environment for learning, and by contemplating – in didactic planning – different degrees of proximity and qualitatively and quantitatively different times, inspired by an authentic form of Learning Ecology (Kek, Huijser, 2018).

As a premise, two imperatives of space-time learning requalification can be identified, both evidence-based and instrumental to an effective and fruitful learning: 1. Closely tying with the *profound transformation of man's relationship with himself*, with each other, with the ecosystem, with the global community; 2. Growing within an environment for learning which is *authentically cooperative and democratic, free, creative, empathic, focused on the relationship between teachers and students*, as well as on building a shared responsibility for education between parents and teachers.

In the following sections, we discuss these arguments referring to the most reliable indications from the international organizations involved, as well as to the present situation of the Italian educational system. We move then to present the partial results of an action research/teacher training process which allow the identification of four categories of the space-time of learning. These categories hold the potential of providing the field with specific focus toward the way of requalification.

1. The requalification of education systems in the midst of pandemic and sustainability challenges

The document *Education in a post-COVID-19 world* prepared by the *International Commission on the Futures of Education* (ICFE, 2020), presenting *Nine ideas for public action* closely intertwined, is a foremost

guide for global research on the space-time of learning as well, thereby worthy of adequate breadth here.

The global health pandemic has shined a harsh light on the vulnerabilities and challenges humanity faces, (providing) a clear picture of existing inequalities and a clearer picture of what steps forward we need to take, chief among them addressing the education of more than 1.5 billion students whose learning has been hampered due to school closures (ICFE, 2020, 3).

«There is a serious risk that COVID-19 will wipe out several decades of progress – most notably [...] in addressing poverty and gender equality» (ibid.; UNESCO, 2020).

However, this dramatic situation is also an «exceptional opportunity to transform the world» [...], «we would be wise to seize the moment; history has taught us that transformational change can happen suddenly and often in the immediate aftermath of crisis» (ICFE, 2020, 9).

We also need to recognize that many parents and communities have awakened to an appreciation of teachers' work and their professionalism, [...] becoming aware of the multiple roles that schools play in providing for the well-being of children and youth» [...]. This increased awareness and appreciation can serve as the basis for a new revival of public education (ibid., 7).

Firstly, many parents now obliged to follow and supervise their children's learning at home have acquired a clearer awareness of the complexity of teachers' work. Second, like essential workers in other sectors, teachers have gone beyond the call of duty. They have responded to their students' needs with compassion and extra efforts that reinforce the value that parents and communities attach to their action. [...] The educational response to the COVID-19 crisis has revealed *the capacity of educators to draw on their professional knowledge and collaboratively mobilize with a resourcefulness and creativity that could not have been achieved by a public authority simply issuing top-down orders* [...]. The education sector which is often unfairly critiqued for its conservatism has shown itself to be among the most robust and adaptable of all social institutions. This is an important lesson from this crisis and one which should lead us *to grant teachers greater autonomy and freedom*. [...] Today it is clear that nothing can substitute for collaboration between teachers, whose function is not to apply ready-made technologies or pre-prepared didactics, but to fully assume their role as *knowledge enablers and pedagogic guides*. The capacity to initiate, experiment and innovate that has been unleashed during these pandemic disruptions must be allowed to continue [...]. This crisis revealed *the difficulty of dealing with unexpected situations in centralized bureaucracies and showed us that the real capacity for response and innovation lies in the initiative of educators* who, together with parents and communities, have in many cases found ingenious and contextualized solutions» (ibid., 13, our italics; Maragliano, 2019).

The core of the process of rethinking education has to be found in *a direct, empathic, co-constructive and transformative relationship between teachers and students (and their families)*, promoting their *autonomy* and that of single schools, allowing *spontaneous* dynamics, which must be *flexible, situated, cooperative and democratic* (ICFE, 2020; Baldacci, 2014; Bearzi, 2017). As a side of such instance, it might be helpful to connect a parenthetical reflection over that research trend which is inspired by the Bakhtinian chronotope and aimed to identify units of analysis of the space-time allowing the emergence of «visible learning» (Ritella et al., in press). Proceeding to investigate the space-time of learning in terms of social construction negotiated in dialogical interaction (Ritella et al., 2016), results even more interesting might be offered by a direct comparison with the line of research moving from the concept of Gestalt matrix within the psychological field, through the Lewin definition of groups as dynamics wholes in which the interdependence among members could vary (and following contributions by Morton Deutsch), towards the *positive interdependence theory* by David and Roger Johnson (Bearzi, Colazzo, 2017, 67-68). The «visible space-time of learning» might be related, for instance, to hopefully democratic motivational dynamics of the group, similarly to the relation between in chronotope curvature and gravitational attraction within general relativity theory.

Referring to the Italian situation, the picture described by ICFE appears particularly adequate to represent the most virtuous and transformative dynamics of the «first wave» of the pandemic, as well as the first lockdown, at the same time unexpected and generative, especially for kindergarten and primary school, which remained almost continuously open in the second phase of the pandemic. *The absence of top-down recommendations*, the slowing down of time and production dynamics, the restrictions imposed on the external space and the expansion of the internal one, the unusual perception of a reality both deprived and augmented have all promoted an extraordinary potential for change among students and teachers, laying the foundations for a «*transformative tsunami*» (Bearzi, 2020).

Nevertheless, it should be recognized that teachers' reaction varied enormously, oscillating between two extremes: those teachers who were overwhelmed from the beginning to the end, clinging to their transmissive habits, with negative resilience and fear of change; those teachers, on the contrary, immediately taking up the challenge, dedicating themselves to their intellectual laboratory, practicing reflective thinking and ready to deconstruct and build from scratch novel teaching strategies and methodologies, in order to find new solutions for the development of the cross-cutting competencies of «sustainability citizens» (Wals, 2015).

However, in the following «waves», the prevalent dynamics seem to be influenced by a general context of convulsive resumption of the production machine, by the new acceleration of time and the new

contraction of interior space. The terrific and amazing *détournement* offered by the first lockdown has been followed by restrictions mainly instrumental to the needs of the economic system, still (01.04.21) in progress, tendentially *re-alienating the space-time of work from free human creativity*. A top-down bureaucratic management of educational processes has been substantially reinstated, planned and conducted with little awareness and willingness to discuss with teachers, *based more on political calculation than on scientific culture* (Pireddu, 2021). The concern and the anxiety to control and manage a sufficiently uniform model of education seems to have obscured the need to promote a creative, transformative and situated teaching, centered on educational relationship and co-responsibility, in a context of authentic school autonomy, so enhancing the opportunities offered by asynchronous learning (CSPI, 2020). This has undoubtedly contained most transformative educators' driving action.

The democratic involvement and the opening of adequate spaces and times for a fruitful educational relationship do not unfortunately seem to attract the attention of the incoming government. We shall also wonder whether, beneath the shareable demands of social cohesion and social inclusion (Draghi, 2020; Bearzi, 2018), the concern for the mere loss of human capital and a school-parking function for workers offspring is not prevailing instead. This brings back the importance of *a conscious and critical adhesion to the paradigm of human development* (Sen, 2009; Baldacci, 2014, 46-71), *revising some anthropocentric* (Demals, Hyard, 2014) *and individualistic assumptions* (Andreoni, 2009; Colazzo, Manfreda, 2019, 100-04), despite Sen's (2009) subsequent adhesion to the responsibility principle (Jonas, 1985) in favour of future generations and other living species, with the attempt of overcoming the limits of the capability approach.

Let us now consider in detail the most relevant ICFE indications for a pandemic framework of the space-time of learning.

The school as a physical space is indispensable(;) traditional classroom organization must give way to a variety of ways of 'doing school', but the school as a separate space-time of collective living, specific and different from other spaces of learning must be preserved (ICFE, 2020, 6).

As community centres, schools can offer powerful supports for self-reliance and for cultivating ecologically sustainable relationships with nature. Most important is that the space of the school houses social relationships. Education and learning are about human interactions, dialogue and exchange. [...] Schools are forms of collective living that cannot be replaced by distance or remote learning (ibid., 15).

We can expect to increasingly have hybrid forms of teaching and learning, in different spaces, inside and outside the school, at different times, synchronous and asynchronous, using a multiplicity of means and methods (among others: individual study, group work, one-on-one

meetings with teachers, research projects, citizen science, community service, and performance) (ibid., our italics).

Though the school space remains fundamental, it needs to be transformed and augmented by a much broader space for learning. [...] Understanding this reality can help us to build a new social contract around education, one that might be very different from the «school model» that consolidated across the 20th century. It is no longer simply a question of delivering our children to schools at fixed times and relying on the inherited belief that time-spent equals learning-achieved. Instead, we must find *flexible forms, flexible times, shared educational commitments*, and an understanding of the ways that learning is broadly diffused across contemporary societies (ibid., 16, our italics).

Technology – particularly digital technology that enables communication, collaboration and learning across distance – is a formidable tool, not a panacea but a source of innovation and expanded potentialities (ibid., 8).

That might be a risk or an opportunity (Colazzo, 2020), a tool for freedom or domain. The medium asks, on a complexity basis, for the answer to the question: what is a human being? (ICFE, 2020; Morin, 2020; Colazzo, 2019).

2. Space-time of learning within an example of action research process: methods and outcomes

Over the course of COVID-19 pandemic, the fruitfulness of action research as a democratic and emancipatory pedagogical research methodology, capable of understanding and transformatively addressing the present didactic problem (Michelini, 2013), has emerged in plain sight. As an essential framework of the arguments that we presented regarding the need of requalifying the space-time of learning, we briefly anticipate here the methods and some sufficiently consistent and well-grounded results of a process of action research and teacher training – led by Francesco Bearzi in collaboration with Espéro, University of Salento – which is still ongoing as the pandemic itself. The opportunity of the aforementioned need emerged at first (March 2020) as one of the most relevant hypotheses for the community of inquiry, within the context of 12 distinct but coordinated teacher training/action research pathways involving 96 educators (from kindergarten to upper secondary school) and 1,639 students from 6 schools in Lazio. Mainly set up with the learner-centered and flipped approach, aimed at the establishment of *creative communities of inquiry* (Bearzi, Colazzo, 2017, 90-100), the original long term (7 months) training course focused on ESD and the use of the New WebQuest (NWQ) methodology (ibid.) as defined for each ontogenetic stage. Through this process, *that generativity which was offered by the deconstruction of the institutional space-time of training during the first*

lockdown was elevated to become strategy thereafter. By further enhancing the interactive and constructive modalities of asynchronous learning, which are reflective and self-determined, the transformative values and the commitment of *an eminently personalized path of education professionals* were totally encouraged. This context has promoted the emergence of four possible categories of space-time of learning, which are tightly intertwined.

1. The space-time of active listening

The sudden outbreak of the pandemic and its consequent lockdown pushed every educator for active listening, which was literally unavoidable in the confused and disorienting start-up phase. No teacher or student was forced by the system to do anything: everyone had to mutually decide what to do and, above all, *how* to do it. Members of the learning/inquiry community, teachers, students, families (especially in kindergarten and primary school) had to listen one another before acting, i.e. to listen and reflect, in order to enhance the special diversity of each. It was an opportunity offered by the specific situation. Then, it became *a sacred space-time of freedom and democracy*, to be protected against system's claims to direct processes in a top-down manner. Those members of the community who benefited the most from this approach were those who have truly opened up to active listening and empathy, so giving meaning to the extraordinary situation and to the profound reconsideration of methods and purposes within the educational relationship, to be negotiated together, up to *a new learning agreement*. Those members of the community were also capable of sharing and co-build effective educational paths, enriched by new tools and methodologies, serendipitously revisable in the authentic spirit of action research. In this framework, the adoption or enhancement of media mainly connected to informal learning greatly contributed to the realization of a multidimensional and digitally augmented Learning Ecology (Jenkins, 2009; Ferri, Moriggi, 2016; Code et al., 2020). This unique context allowed to experience the generativity of «different degrees of proximity and qualitatively and quantitatively different times» (Pireddu, Moriggi, 2021), without forgetting that this kind of media tends to transform relationships and knowledge themselves by their usability and flexibility in response to emerging meanings in the community, so aiming to build *a creative, free and participatory space-time in which education becomes medium and medium becomes education* (Maragliano, 2019, 2020; Maragliano, Pireddu, 2015; Colazzo, 2021). Similarly, the deconstruction of the intrinsic constraints of institutional media was essential, while maintaining the opportunities offered by the official educational platforms to the community. The same was true for devices; not to underestimate, among others, the potential of traditional one-to-one telephone communication by appointment, which is intimate, reflective, respectful of privacy, and keeps user's freedom of movement. As a consequence, *the space-time of the educational path co-construction*

has been extraordinarily transformed and hybridized, considerably expanding the growth margins of the educational relationship and generating powerful inclusive effects.

2. The space-time of reflective learning

It is clear that active listening has represented the premise of an impressive growth in terms of reflective thinking (Dewey, 1933; Baldacci, 2001, 24-28) within the communities of inquiry, with particular reference to divergent thinking emerging at the initial phase of *suggestion*. Critical and reflective thinking has been mainly achieved by a flipped approach of the educational path and by a background scheme compatible with the *Anticipation-Action-Reflection Cycle for 2030* (OECD, 2019, 117-125), as well as by promoting the dynamics of asynchronous learning in students (and in families). Even in the context of coherent learning units and modules, curricular for the most, all this required the deconstruction of conventional educational spaces and times and their reconstruction on the basis of the opportunity to allow *an adequately extended and focused space-time of reflective learning, which had to be centred on autonomy and intrinsic motivation* (Ryan, Deci, 2000) prompted by reality tasks. Adopting or strengthening the use of active learning methodologies, in a flipped approach, mainly focusing on peer tutoring in the higher grades and on educational shared responsibility in the lower grades, produced considerable progress in terms of meaningful learning, meaningful relationships, well-being. On the contrary, outside the community of inquiry it was observed that the prevalent transposition of transmissive and/or heterodirect methods produced a weakening of learning outcomes, of the educational relationship, as well as digital overload and stress.

3. The space-time of transformative and transgressive learning.

The development of active listening and reflective thinking within the community pointed to strengthen a highly transformative and transgressive space-time of learning, driven by the awareness that the main educational purpose was *to make sense of the pandemic situation in a context of ESD and GCED*. In this process, an important role was played by adapting the cooperative, inclusive and digitally augmented NWQ methodology to the situation, especially in Short Term mode (link1), considering also that NWQ involves, among other features, the hybridization of formal and informal space-time of learning. In short, if a critical attribute of the original model of the methodology is the meeting-at-home of small-group communities (students or, for lower grades, students with families), the impossibility of achieving it and the search for authentic relationships, even if remotely, drew remarkable, transformative and transgressive results. Moreover, a particular opportunity was offered by proposing *expressive/creative writing activities* in secondary school, which were also derived from active listening. Teenagers' desire to tell their extraordinary experience during

the first lockdown became a powerful source of artifacts with paradigmatic value, also in terms of sustainability challenge (Bearzi et al., 2020). In a paradoxical space-time situation, telling their personal experience enabled a unique fusion of past-reflection and future-oriented planning, in a present in which the defining of adolescent's identity and values precipitated into a transformation of the relationship with each other, with the ecosystem and with the global community.

4. The space-time of «immersive» and mindful learning.

Let us now briefly mention a fourth dimension disclosed in the course of the aforementioned processes. A dimension which seems to represent the crowning and in some ways a precondition of the other three, i.e. *the renewal of the relationship with the other in which we are immersed (ecosystem, human being)*. As argued elsewhere (Bearzi in press), the scope of the sustainability challenge requires the questioning of fundamental categories of Western thought (Dewey, 1929; Bateson, 1972), still dominant on a global level, as a substratum of the Anthropocenic culture. This process promotes a way of «functioning» of the entire organism, in relation to the ecosystem of which it is a part, which could precisely be defined as «*ecosystemic relationality*» – characterized by a sense of interdependence, tendentially in active listening and open to new dynamic balances – versus the ordinary «*intentional relationality*», characterized by the sense of subjective autonomy and exclusive difference, tending to be indifferent and dominating. Apart from the purely scientific evaluation of the unfathomable depths of space-time opening up, it may be helpful to pragmatically point out that few minutes of these experiences (meditation, mindfulness, «self-aware» snorkeling), in an «objectively» limited physical space that seems to be extraordinarily dilated, they tend to transform the space-time of individual and collective action in a sustainable sense. Interdependence and compassion with the ecosystem and with the global community produce a state of mindfulness or happiness, which could be the goal of any educational relationship (Thich Nhat Hann, Weare, 2017), thereby promoting a necessary process of regeneration and *cultural revolution*. Also, in the context of the aforementioned process of action research, the generativity of the pandemic situation emerged towards the spontaneous dynamics of research on the web of meditation practices by students and their families (Bearzi et al., 2020, 56, 68), sometimes supported and guided by teachers with experience in the field. In the institutes involved, the commonly expected benefits of mindfulness courses aimed at students and teachers, often held in blended mode due to the pandemic (Spijkerman et al., 2016), were also observed. This suggests that international and national educational bodies should enhance the integration of these pathways into the action of educational systems, in addition to its inchoative and still rather marginal recognition, not yet directly related to the sustainability challenge.

Conclusion

The opportunity for a profound requalification of the space-time of learning is recognized by the most important international organizations as a result of the dynamics that emerged during the COVID-19 pandemic, within the framework of growing global evidence about the effectiveness of a school model which should be democratic and cooperative, able to enhance autonomy, creativity, participation, empathy and openness to change among teachers, students and families. This picture is corroborated by the partial results of the aforementioned research action process carried out in Italy, from which four categories of space-time of learning emerge and seem to be perspicuous for the purpose of guiding further research efforts in the field. A space-time of: *active listening; reflective learning; transformative and transgressive learning; «immersive» and mindful learning*. The fruitfulness of educational actions aimed at enhancing the multidimensionality of space-time of learning and the hybridization of formal and informal knowledge is also confirmed, in a digitally augmented perspective looking towards the co-construction of Learning Ecologies which are capable of facing the challenge of sustainability.

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Digital Citizenship: Reflections on Space and Time

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ABSTRACT: *In this epochal moment we are faced with a subjectivity that moves unconsciously and that chooses on the basis of how reality is presented (De Caro, 2020) immersed in virtual digital environments. In this regard, the DigComp2.1 (2017) drafted by the Joint Research Center service of the European commission describes areas of competence that students should develop in the educational field to use the medium with conscience and knowledge. Starting from practice (experiences in classroom) this essay proposes to observe technologies and the way in which they modify the conception we have about us, the way we interact with others, in summary how they influence our understanding and vision of the world (Floridi, 2020). The human being knows the world by filtering it through the senses, personal experiences, beliefs, values and universal categories (e.g. space-time). The whole process determines the construction of a reality that is not objective but subjective. Today, for example, the categories of space-time are perceived through dimensions that are not physically evident (e.g. asynchronicity, multi-dimensionality, multi-spatiality) as was the case in the past (e.g. linearity, physicality, permanence). The effects produced by these new perceptions are unaware of the mass society (Accoto, 2017). In line with these indications, the guidelines of the Frammenti a scuola project (philosophical-artistic path) will describe how to activate a process of reflection on space-time dimensions. The philosophical reflection on the space-time dimensions intended as tools for reading reality will therefore focus on educational practice and on operational interventions to raise awareness: in the way of conducting a lesson, in teaching and in classroom experience. Changes in perception these abstract categories involve contributions from different disciplines (history, geography, language, science, etc.) and contexts (societal, groups and individuals). A reflection on the «digitally augmented pedagogical» intervention will be addressed to the high school and will be described using the example of a best practice conceived in 2016 in the multiethnic suburbs of Rome: App in Progress (Cavarra, 2016). The focus of the experience will be concentrated on the various forms of space-time interaction in school life through the various dimensions of the App in Progress project: real, virtual, concrete and abstract.*

KEYWORDS: *Digital citizenship, space-time, education, Frammenti a scuola, App In Progress.*

Introduction

As the philosopher Accoto (2017) says, we are faced with a reality in which the human experience observable through the awareness of our being in the world is new compared to the past. In this situation in which dynamization is accelerated to the maximum, a consequence produced by open code (open source) and by learning algorithms (machine learning), primary categories such as those of space and time are remodeled.

In the course of historical events, for example, the invention and diffusion of the bicycle or the introduction of legal-time have helped to revise these categories. Today the diffusion of the latest generation technologies is again reorganizing the way of experiencing and thinking both time and space. A critical reflection in this sense appears to be essential and the use and effects of technologies carrying Artificial Intelligence are critical and aware.

Data and algorithms modulate time. The dimension of time captured by data in the present is used to build a future perceptible by our experience and consciousness. The present for the machine is the future for the human being because the system produced is anticipatory and perhaps even deterministic (Accoto, 2017). Environments (spaces) are offering anticipated experiences based on trends, preferences and consumer profiles.

Space and time, interdependent social constructions (van Eijck, Roth, 2010), are intimately related (Disalle, 2009). Over time, the relational, social, contingent and multiple character of the space has expanded (Accoto, 2007). For example, the space becomes built and used for multiple uses. For example, with the advent of external devices the code (if not consciously used) could decide what the classroom is. The code replaces the teacher's guide: it transforms spaces and times of knowledge and learning. The space-time context emerges from a continuous process of social negotiation (Bateson, 1977) in which the latest generation technologies dictate laws and processes.

In this regard, hypertext and hyper-media that adopt a non-sequential scheme (similar in dynamics to the styles and processes of thought – Mantovani, 1995) are suitable for the more advanced phases of the student's growth. For those students the models of inductive, deductive and abductive thinking are dominated in a conscious or unconscious way (Volpi, 2021).

The questions that appear to be crucial are relate to how universal categories of space-time influence and are perceived in different approaches on teaching and learning, as well as the way in which students and teachers make sense of their interrelation. In this essay, educational practices will be related to mature students starting from the analysis of two experiences that show a full integration between the use of new technology and his comprehension in terms of time and space.

The first educational practice *Frammenti a scuola* describes a path to raise awareness on the categories of space and time starting from an abstract – theoretical dimension that takes concrete form in a photographic-artistic path. The second practice observed is *App in progress*. From a concrete dimension of the use of technological tools such as video-game to slow learning phases in which space and time will be reviewed in a contemporary perspective.

1. Succession, simultaneity and virtuality

Since the ancient Greeks, the structure of time has been studied and mentalized. Some authors argued that time was made up of parts, infinitesimal instants that made up longer durations. Others focused their attention on the role of the past and its importance. The great change made to the categories of space-time and specifically in the dimension of the present was observed between the nineteenth and twentieth centuries. While the past and the future in the collective imagination have always influenced the present, the perception of the present has been compared to before by the introduction of the telephone, bicycle and legal-time because they have made it simultaneous. The present, from structure in succession, has passed to be perceived as simultaneous. Simultaneity involves different temporal aspects such as multiple places.

Both the perception of ourselves as well as the relationships that surround us are influenced and linked to technology. Life of humans in advanced societies has changed again, from simultaneous and real to virtual: simulated and reproduced reality (Lyotard, 1987, De Caro, 2020). In a conscious and unconscious way, technologies influence the social sphere, individual and collective action (INAPP, 2017). The relationship with oneself and with others is influenced by the continuous connection mainly linked to the economic system. The main-streaming is oriented towards human capital rather than human development (Baldacci, 2014).

There is no contact with images of perception, time of consciousness and memories because they are substituted for technological devices, durable and external supports (Stiegler (2004). In the virtual world where mediation replaces the direct relationship with physical, emotional and cultural objects, the dimensions of past, present and future time have joined into an ever-connected present (Marramao, 1992).

The evaluation of the past and its duration are configured as a source of freedom in the dynamics of experience (Kern, 1988). The freest individual has an intact past and is able to use the maximum amount of memories to respond to the challenges of the present: just as the dancer is free because he can integrate a complex network of past motor experiences. The actual individual is free to coordinate a vast flow of past experiences in a present thought that leans towards a future.

2. Method and sharing's knowledge

Students need critical tools to interpret the multitude of information, distinguish what is important from what is irrelevant, framing information in a broad world scenario (Harari, 2018; DigComp 2.1, 2017). Education should train to abstract and hypothetical thinking, thanks to which critically aware decisions, ethical thoughts and attitudes can be made. The ability to imagine on the basis of information, experience, knowledge and cognitive abilities, synthesized in an epistemological maturity (Longo, 2017) allows to make satisfactory decisions, logically defensible, in conditions of continuous change.

The profound social changes due to the latest technological innovations therefore bring attention to the educational models necessary to determine ways and tools to decipher reality and its declinations. In a time characterized by the complexity and fragmentation of information, it appears a priority to understand knowledge as a process of knowledge and relationship between knowledge (Cerruti, 2018). The web is the place where all the materials are, an incoherent mass of parts of knowledge, usable as new materials to build knowledge (Varanini, 2015) through method and models of argument (Marramao, 1992)

The multiplication of the possibilities of choice, the anxiety of being lost, the taste for exploration are all elements that characterize hypertext, a symbolism of the labyrinth. The largest hypertext is internet. Knowledge, Arianna's thread of the Knossos labyrinth, represents the way to obtain the correct information. The types of labyrinth known in history, unicursal (linear), arborescent (tree) and cyclomatic (network), follow the model of the structure of the data (Muscella, 2005). The unicursal labyrinth can be associated with a coiled snake. Following a path of considerable figural complexity, there is a great relief for the test passed. This model follows the linear sequence. The tree such as a labyrinth is dichotomous. Like a tree or a graph it possible to go through branches and then return to the main road to access new crossroads. This model refers to the simultaneity in which the methodical path allows to know alternatives steps. Finally, the cyclomatic labyrinth is characterized by the presence of islands from which cycles or links start. This is an environment where the risk to be lost is high, unless the intent and the itinerary are clear and defined (Muscella, 2005). Last type of labyrinth follows the structure of the internet and its reticular ordering. Each sub-unit of the hypertext, or a node or vertex of graph, is connected by any other unit. The never-defined large dimension of internet hypertext therefore requires a mature internet' users with a reference map to follow. This presupposes knowing what to look for, the goal to be achieved and the intent for which the research is being carried out.

To bring these metaphors back into the world of education, the above mechanism appears to be more appropriate for end-of-cycle classes, those already in possession of a working method and a cognitive maturity (reached around 6 years) and an emotional one (organized in

adolescence) (Volpi, 2021). In the first years of learning and building knowledge the method constitutes the basis and the beacon of a conscious growth (Dewey, 2014). In this context, Montessori's philosophy described in *Cosmic education* (Montessori, 2007) is an excellent example. The educational environment reveals history and scientific discoveries through a critical thinking organized in mixed operating modes (individual and group work).

This learning model stimulates abductive thinking, a mechanism through which phenomena belonging to different fields reveal what they have in common: ability to grasp links, to correlate and to think objects, concepts and propositions. A working method that has the same function as Arianna's thread: travel the path of knowledge and find the way out. In this essay we will focus on experience and not on experiment. We will deal with symbols, metaphors and key words in which we order our reality. The *modus operandi*, of the two experiences described *Frammenti a scuola* and *App in progress*, is divided in three macro phases (working times moments): pre-production, production and post-production as happen within the production of each opera in a theoretical and practical version. During the whole process, a course of vocational orientation is carried out in parallel to promote the human potential starting from passion (Chiacchiarelli, Scippo, 2021).

3. *Frammenti a scuola* (Fragments at school): a path to raise awareness on the categories of space and time. From theory to practice

Frammenti a scuola project has the mission to accompany professors and students of high school in a philosophical-artistic path using the photographic medium to activate a process of reflection on the space-time categories. Since man belongs to multiple levels of nature (Fraser, 1991) he should strive for a universal understanding of time and space: from the world of light and moments, to the mind of man and his cultural systems.

These fundamental and universal philosophical categories (inherent in every experience of individual, social, collective and global life) include and describe orientations and developments in the various cultures and forms of thought and contribute to the understanding of reality.

Time-space of Einstein's chronotype belongs to the mature human mind with a clear and conscious distinction between past and future in which present has temporal and spatial boundaries. The exhibition *Fragments: Photographs by Stefano Cigada* is imbued with spatiality and temporality on several levels and stages them in its 21 shots (historical level as it focuses on classical statues and revives Greek and Latin culture in a modern key, energetic level giving the stone three-dimensionality on printed paper or space in the absence of volume, time and space as matter and as opening of the diaphragm, etc.).

The path of the educational project *Frammenti a scuola* is divided into three stages to be carried out both in classroom and museum hosting the exhibition. The classroom dimension and the museum space are understood as places of relationships between past, present and future and interactions between institutions and culture (Christillin, Greco, 2021).

The pilot project was carried out at the San Carlo Institute in Milan with the participation of two classes of Liceo Classico. This essay *Digital Citizenship: Reflections on Time and Space* aims to be a reference guide that each teacher can use to customize according to their own inclinations, propensities, knowledge and points of view.

In the first stage of the project, teachers and students will decline the categories of space and time according to the discipline in question. For example, time and space in philosophy, art, history, technology, mathematics, etc.

The second stage includes the view of *Frammenti a scuola* exhibition organized by the school during school hours. At this time, the students have a direct experience of the work and elaborate personal considerations on the path.

In the third stage of sharing, a general reflection on the contents already highlighted will be activated and a discussion will be initiated on the categories of time and space remodeled with the introduction of new technologies. Time and space protagonist of the reflection will be declined in a path in which learning times and spaces will be different: in the classroom cooperating, at the museum observing, and in solitude reflecting.

In contemporary society in which education is affected to dictates and interests conveyed by technology and new media, more than ever the role of education should be a space for emancipation to bring out awareness and knowledge. It is the culture that apparently no has purpose, without immediate practical purposes, which allows the community to ask itself the reason for the mutations and try to understand their meaning. According to Antonio Gramsci, for example, the study of the classics served not only for individual training but also for the development of adaptability and the understanding of the most important reasons for being in the world (Bodei, 2020).

The development of the humanistic and scientific culture should go simultaneously. Since 1855 (scientific invention of Boolean algebra and the 1-0 binary system) innovations and developments have made great strides and the humanistic culture is replaced by technical subjects and professional training courses. In this regard, *Frammenti a scuola* aims to describe, starting from the innovations of the present, an organic and interrelated path in which the past, present and future are still conceivable.

4. App In Progress: a project in which space and virtual time become real.

The development of scientific knowledge and technological applications is causing a continuous process of obsolescence. Present discharge of experience (Marramao, 1992), due to the speed that passes through it, is converted into a worthless past. A past has lost its guiding value and we can no longer rely on it. In this regard, a project dedicated to high schools will illustrate the importance of slowness in learning processes using the digital medium and his sex appeal. *App In Progress*, best practice on how the virtual becomes real, is a psycho-socio-educational intervention. It moves from the interest of young people for videogames, to create moments of conception, planning, programming and realization of a video-game idea through a competition designed *ad hoc*.

Each student enters into a relationship with a group of peers and takes a creative role to the entire realization process. The originality and relevance to the context, the multi-ethnic Roman suburbs, consists in relating children with themselves, with their peers, with educational institutions and with professional environments starting from passion.

The intervention was created to bring children in a process of conscious growth starting from new communication tools, recent transformations, new interaction and play scenarios. The project enters into a relationship with the existing virtual space and renews it allowing the young teenager to carry a smart-phone or various game console, not only for hobbies but view as a space full of new contents, and interactions. One environment of this project is the web-side www.appinprogress.org, a virtual square where it possible to create meeting points between participants and working group. Web-side is seen as a reference place where to find all information, partners and institutes involved. Website and social networks activated for it (Facebook and Twitter) are intended as access for creative writing course and news bulletin for all collateral experiences (work's presentation at local and extra-regional conferences and meetings). All activities are carried out on website, in classroom, inside the lecture hall and outside the school in a career guidance center to familiarize students with the local offers.

The objectives of the project achieved were: to develop socio-relational skills, to structure the sense of belonging to the class and school context, to design and search for information on the web, to favor an aware management of social platforms, to improve coding skills and programming, to choose career path by putting students in contact with the job market.

To develop socio-relational skills, students were educated to work alone, in small groups, within the class group and confronting all the four classes involved in plenary sessions. Students spoke into microphone presenting their project and had the experience of working as if they were a real working unit with tasks, roles and responsibilities. To structure sense of belonging to the class and school context were created team

logo and school posters to be presented in conferences and dedicated events (for example the participation of the project and its outputs in the various events Naples 2014 – Lucca 2015).

Conclusion

Either in a *Frammenti a scuola* such as in *App In Progress* project virtual space and time become real. By an in-deep reflection on time and space categories we helped to mentalized self-evaluation, setting learning goals, identifying training opportunities and facilitating job search (Digicomp, 2017).

Both projects follow a model although they deal with different topics and are carried out with different timelines.

The contact points are listed below. The main objective of the projects integrates new communication languages to the educational, didactic and training models to support teachers and children learning process. The proposed interventions involve and make various actors dialogue: students, school, territory and institutions. The soul of the courses is to create continuity in a process and a network to make people experience full of value thanks to a strong cohesion between external structure and internal school service. Through three moments of work (pre-production, production and post-production) both experiences can introduce a vocational path. The educational and professional orientation course provided for students is made by professional figures who explain various aspects and specific tasks of different activities. In the realization of a photographic exhibition the participation of photographer, printer, framer, museum agent, architect, press office and typographer are crucial. In the creation of a video-game: engineer, architect, lawyer who deals with copyrights, animator, etc are necessary. The creation of a social and cultural network considers school an open environment to outside and allows the hours of Italian language to dialogue in an interdisciplinary manner with those of art, new technologies, philosophy, history, English language, mathematics, etc.

The space in which projects are organized is made of interest and passion. In the photographic shots as well as for the construction of the video-game, it starts from the unconscious use of the medium to become aware of its complexity. According to Bergson and Husserl's philosophy our experience of time would be bounded by the contrast between an authentic and an inauthentic time. Authentic and unspeakable time which expresses the subjective and inner feeling of duration and understanding. Inauthentic and measurable time which manifests itself in objective and spatialized representation (Kern, 1988). Both paths *Frammenti a scuola* and *App In progress* seek to bring out the representation and understanding of its authentic and personal time and space from the objectified form of products: video-game or photo exhibition as example.

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Space-Time Variable in the Teaching-Learning Process: Technology Affordances for the Educational/Didactical Relation

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ABSTRACT: *The study is focussed on the analysis of the space-time variable in a course on «General Didactics» that was redesigned to be developed online in the second semester of the academic year 2020-2021. Space-time is, thus, here meant as both the opportunities (didactical actions) created by the teacher to activate the teaching-learning process with the support of technology (synchronous and asynchronous tools), and the occurrences (learning actions) of generative processes activated by students. The educational/didactical relation is at the centre of the study and its efficacy has been analysed triangulating the space-time variable with the instructional design choices for the above mentioned course in order to be able to address the efficacy of the relation established between the teacher and the students and among students as peers. The qualitative study aims at analysing how different structures of space-time has influenced the co-construction of an educational/didactical relation among the involved actors (teacher and students).*

KEYWORDS: *Teaching/learning space-time, Instructional design, Technology-enhanced learning, Educational/didactical relation.*

Introduction

The study is focussed on the analysis of the space-time variable in a course on «General Didactics» that was offered online in the second semester of the academic year 2020-2021 at University of Macerata (Italy) within the degree course in Education Science. Space-time is, thus, here meant as both the opportunities (didactical actions) created by the teacher to activate the teaching-learning process with the support of technology (synchronous and asynchronous tools), and the occurrences (learning actions) of generative processes activated by students (Duarte, 2014). The case-study aims at answering to the following questions: «How does technology affect the space-time variable? What implications for the didactical/educational relation?»

When we refer to space-time we address the sense of presence perceived by the students who develop their agency in an interactive learning context, as van Eijck and Roth underline: «Place, as a social

construct, is defined by the perspectives people attribute to it and, in turn, these attributions collectively become the voice by which people are bound up with the places represented» (2010, 878-879). But, sense of presence is also provided by individual and autonomous learning actions that take place in a specific place and time. Students reflections about the management of their presence in the course, the level of their engagement in activities and classes and the sense of affiliation with the peers as a learning community can highlight interesting connotations tied to the educational/didactical relation occurred online.

The space-time of the educational relation between the professor and the students and among students is not only developed through opportunities of interaction and communication, but also thanks to reflection processes, that is through a so called «self-eclipse» of the professor who can «treat silence as a thing in itself, a living phenomenon occupying space and time» (Baurain, 2011, 95); space-times of silence can improve a listening orientation and self-reflection attitudes.

1. The General Didactics course: a case-study

The case-study, object of the analysis, is represented by a first year course taught within the curriculum «Socio-pedagogical educator» of the three-year degree in «Education Sciences». The course, namely «General Didactics», was entirely redesigned by the professor in order to be developed online in the second semester of the academic year 2020-2021 to adhere to the health assurance safety measures required by the COVID-19 pandemic spread.

The 48 hours course that was, normally, taught in a face-to-face learning environment has been organized around 6 weekly hours of frontal and dialogic classes where active student participation is fostered by group works. Collaborative practical activities can facilitate the connection between theory and practice in a discipline which anticipates and roots the basic principles of teaching methodology and strategies. Those hands-on sessions are of paramount importance to introduce students to critical thinking, problem solving and instructional design skills in the framework of a team work practice (Stramaglia et al., 2020; Ubell, 2010).

Since the shift from face -to-face modality to e-learning was forced by the emergency situation, students were not fully prepared to change their perspective as learners to embrace an online teaching process through the available institutional environments.

That means that their idea of space and time of learning had to be reoriented by the professor through a gradual inquiry-based approach to experience available technologies and be able to appreciate their affordances.

The structure of the course was, then, modified to let theoretical and practical sessions be developed using the online learning environments

so to keep real time frontal/dialogical sessions along with the proposal of a set of practical activities to be completed each week, individually or collaboratively (in small groups and/or collectively).

The course was organized with the support of both synchronous and asynchronous online tools: TEAMS videoconferencing tool was used for real-time sessions (teacher' channel; students' channel) and store classes notes and outputs of discussions/group-works that took place as part of the weekly synchronous class; OLAT Learning Management System was equipped with dedicated tools to aggregate the whole learning offer such as the learning path description; the additional study materials (textual resources and/or audio/video inputs), practical activities (assignments with a final outcome/artefact), and the reflection tasks (periodical guided reflections papers).

Exactly like in face-to-face instruction students were left free to choose the level of their engagement in the course: either attending the weekly synchronous class, or participating to the asynchronous activities, or both options. They also could opt for the single activities they preferred to complete according to their feasibility also in terms of home Internet connection and devices. The only request made to students by the professor was an advise to take their responsibility in collaborative tasks by keeping participating in an active way once they accepted to be part of a group work.

The course lasted eight weeks with a 6 hours weekly organization: a synchronous class of 2 hours and a half where students could interact with the professor in real time and they could also interact with peers during open discussions and small groups activities; an asynchronous activity (or two connected mini activities) students could complete during the week; in this case the interaction with the professor occurred in terms of formative feedback, mainly feedforward (Price et al., 2011), to let students improve their performance before uploading the final task's output.

As shown in table 1 the proposed activities aimed at orienting the students on the approach of the two main online environments (TEAMS and OLAT) in order to gradually experience and become familiar with the communication/interactions tools and reach a better awareness of technology affordances by managing autonomously, for example, collaborative writing and videochat tools. From week 4, in fact, the professor created a student channel in TEAMS to be freely used by students' teams for their group works; students gradually moved from activities developed entirely in a teacher-led guided platform (OLAT) to activities that could integrate student-led tools (TEAMS and shared google documents/forms).

TAB. 1. *Overview of weekly learning activities.*

	Kind of learning activity
Week 1	Individual task: asynchronous guided analysis of a given educational project (OLAT)
Week 2	Individual task (asynchronous): activity of simulation (OLAT) Collective task (asynchronous): discussion with peers in a forum with a selection of guided inputs to share the reflections about individual task (OLAT)
Week 3	Small group task (asynchronous): video analysis and forum discussion (OLAT) Reflection paper (asynchronous): a guided reflection task to be completed individually
Week 4	Small group task (asynchronous+ synchronous): design and create a need analysis tool (OLAT, TEAMS student channel)
Week 5	Individual task (asynchronous): practicing with the writing process of didactical objectives (OLAT) Small group work (synchronous): practicing with the writing process of didactical objectives (TEAMS professor channel during class) Reflection paper (asynchronous): a guided reflection task to be completed individually (OLAT)
Week 6	Individual task (asynchronous): activity of analysis of autobiographies (OLAT) Collective task (asynchronous): discussion with peers in a forum (OLAT)
Week 7	Pair work task (asynchronous+ synchronous): case-study analysis and design of an educational project (OLAT, TEAMS student channel) Small group work (synchronous): design an educational activity (TEAMS professor channel during class)
Week 8	Individual task (asynchronous): analysis of a docuseries (OLAT) Collective task (asynchronous): discussion with peers in a forum (OLAT) Reflection paper (asynchronous): a guided reflection task to be completed individually (OLAT)

Online activities were designed to let students approach some of the theoretical principles of the discipline through a guided set of tasks that required students a substantial effort in terms of: (1) critical thinking and analysis, (2) teamwork and interaction dynamics with peers (3) adaptive behaviours towards technologies. The alternation of individual tasks and collaborative tasks had the objective to offer anyone the chance to be engaged in activities he/she could manage in preferred times and modalities and, at the same time, the possibility to make student face the opportunities and potential barriers of collaboration and, specifically, online collaboration.

Among the available activities there were three reflection tasks which were required at the end of week 3, 5 and 8 with different inputs that students could either use as a guided path or not; reflections were the only course's outputs that didn't receive any feedback by the professor; the papers were not assessed, since their value was to be found in the experience of a reflective attitude towards a professional identity development.

2. Research design

The qualitative study aims at analysing how the instructional design choices have offered different teaching/learning space-time opportunities and has influenced the effective co-construction of an educational/didactical relation among the involved actors (teacher and students). The course represents, thus, a case-study (Yin, 2013) where the educational/didactical relation is at the centre of the analysis and its efficacy has been interpreted triangulating the space-time variable with the students' response at the beginning, at the end and all along the learning path in the General Didactics course.

Data were, in fact, collected at different phases and with different tools:

- an anonymous questionnaire submitted at the beginning and at the end of the course;
- participant observation: during the course activities;
- students' artifacts as outcomes of the assignments during the course;
- students' feedback in forms of written reflection papers.

Specifically the two questionnaires were built around the following inputs:

- initial questionnaire: experience about e-learning; availability to be engaged in activities and motivation, expectations about the course;
- final questionnaire: level of engagement in online activities and satisfaction; preferred environments and tools for communication and interaction during the course; perceived support and feedback provided by the professor; approach towards individual and collaborative activities; approach toward reflection tasks.

Participant observation was conducted by the professor to monitor students' collaborative dynamics in asynchronous tools (e.g. forum) and synchronous group work during the class. Students were not under observation in the TEAMS students' channel since they managed by themselves their space-time of interaction. Moreover the outputs themselves were a useful source of data mainly in collaborative writing tasks were online documents stored all inputs and comments by group members.

In order to be able to address the efficacy of the relation established between the teacher and the students and among students as peers the qualitative study was run using a content analysis approach (Bardin, 2000): the coding process brought to a set of interpretative categories which were discussed in their dual connotations related to learning space-time opportunities fostered by technology and relationship building.

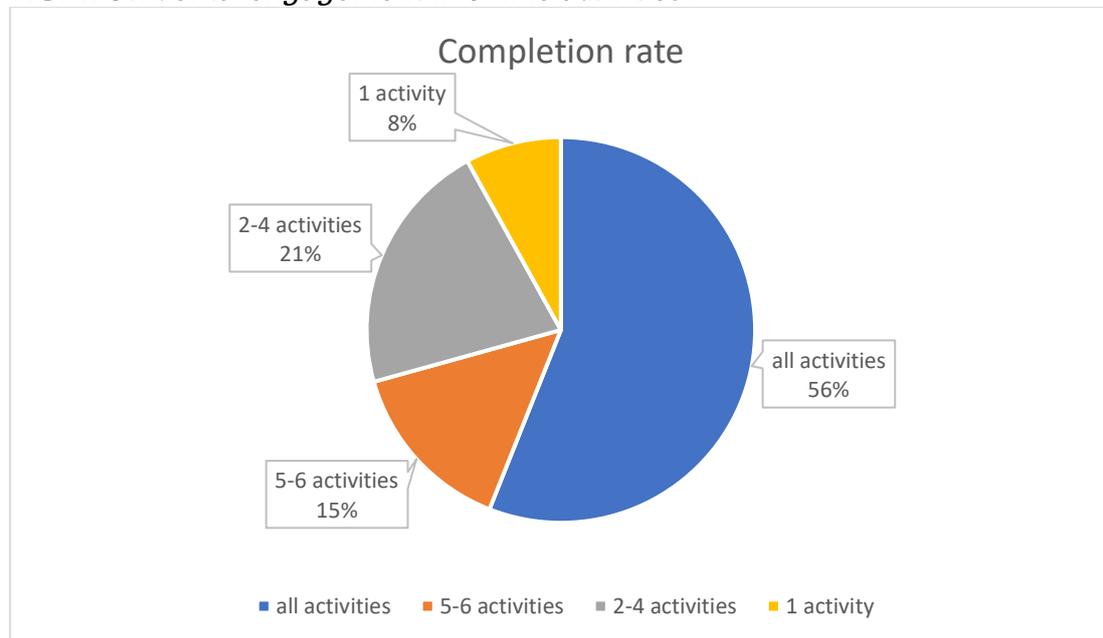
3. Data analysis and discussion

The sample is represented by 105 students of the first year enrolled in the degree course in «Education Sciences», specifically attending the «General didactics» course in the «Socio-pedagogical educator» curriculum.

The triangulation of data was made mainly using the open written answers to the questionnaires, the written reflection papers and the field notes taken by the professor during observation of both written and oral interactions among students in the different space-times of the course activities.

The data collected with the two questionnaires show an apparent imbalance between the initial and the final submission (105 vs 37), but those numbers are actually consistent with the level of students' engagement in the course: just 42 students completed all activities (+ reflection papers) and 33 completed partially the tasks (with at least 1 activity up to six activities, Fig. 1). It is plausible that students who were not fully active in the two learning platforms were not motivated to submit the final questionnaire as well.

FIG. 1. *Students' engagement in online activities.*



In order to understand how students' engagement was affected by the technology-enhanced teaching/learning process the variable space-time was investigated in terms of opportunities of interaction created by the professor with a set of activities, but also in terms of student-led space-times. Specifically student active participation during the course was problematised and seek to understand how technology affected the educational/didactical relation and its efficacy.

The analysis of data let the researcher convey the discussion into three categories, each with a dual connotation: (1) presence/absence; (2) formal/informal; (3) individual/collaborative.

3.1. Presence/absence

The category refers to the implication of professor's presence/absence in the teaching/learning space-times and the balance between her teaching/supporting role and her «fading» to enable/scaffold students' autonomy. Letting students manage their own spaces and modality of interaction (synchronous/asynchronous) means that they «first need to find affiliation with the learning goals and negotiate an identity as a learner who belongs within and understands the classroom practices and relationships» (Willis, 2011, 401).

Students' statements in the questionnaires and reflections showed online asynchronous space-time afforded by forum and collaborative writing tools were addressed as «activators» of participatory dynamics more than synchronous channels as videochats, mostly used for quick communications and negotiations. The students fully experienced to be members of a group work and to be able to collaborate in an effective way (perception of affiliation); those connection helped the construction of a net of peer supporting actions.

Online asynchronous tools (forum, wiki, feedback assignment box) offered an enhanced space-time of interaction between the professor and the students. They underlined that being able to receive and give inputs about the assignments at any time during the week was an opportunity for:

- The teacher to follow the process and not just read the final output (perception of recognition of their engagement);
- The student to ask for help if necessary (perception of support).

The space-time of the individual reflections occurred thanks to two *dispositifs* (Vinatier, 2009): the guided reflection papers and the interactions occurred during the feedforward. Both space-times were mentioned by most students as relationship building opportunities: «I'm enthusiastic since at the end of the course I recognize the beauty of those diaries. Actually it seems that they afford a strong connection between the professor and the learner that goes beyond the simple class»; «with feedback during the week the professor demonstrated that she was beside us and we were not left alone with our doubts; also when she used to spend the first part of the class giving a general feedback on the past week completed activities we had the chance to compare our understanding of the activities with the ones of our peers, in this way we could have an additional perspective or reading key for future activities.»

3.2. Formal/informal

The educational relation and the student agency in relationship building merge two dimensions: formal and informal, the formal/structured space-time of the teaching-learning process is connected and affect, in a

reciprocal way, the relationships which occur outside the course and consequent learning. The impact of the sense of presence and affiliation is one of the variables that were identified by students, in the initial questionnaire, as aspects that they could hardly find in online courses; the activation of an educational relation with professors and the connection with peers seemed to be broadly affected by the impossibility to «live» the student life through its places and rhythms.

Relationship building is not necessarily easier in physical face-to-face environments, but, instead, it is fostered by common goals and collaborative activities (Dixon, 2010; Fedeli, Pennazio 2021; Hillyard et al., 2010; Swanson et al., 2019). Students underlined that group work run at a distance helped them understand with whom of their peers they would have built a friendship and not just a temporary collaboration to accomplish an assignment. It is surprising that a number of students reported to have made their first friendships at university during the course of General Didactics that was located in the second semester, while the courses in the first semester were partly run in face-to-face physical classes at the university building. Most respondents underlined the value of those relationships to activate a mutual support in terms of orientation and learning processes.

The reflections made by students highlighted how the connections with classmates began during the course activities, but progressed also in the out of class space-times and this situation was addressed as a positive connotation of distance learning. At a distance, in fact, students had to make a big effort in understanding each other through online communication channels that are different from the ones they are used to, especially asynchronous ones.

3.3. Individual/collaborative

The assumption that learning is both an individual and social process (Salomon, Perkins, 1998; Wenger, 1998) has been widely investigated also in e-learning and in instructional technology studies (Harasim, 2017; Hill et al., 2009). Online technologies can create a variety of space-times that goes well beyond the dualism individual/collaborative since, as we have seen, cover also the asynchronous dimension; interaction and communication dynamics, in fact, when applied in an online collaborative activity require students to identify a balance between the enhanced learning space-times opportunities.

If students reported and showed that individual activities did not cause any difficulty, online collaborative activities needed a deeper process of negotiation of spaces and times to apply team building skills. Mostly when interacting through asynchronous tools students perceived the need to develop a self-regulation competence to express themselves, make others' accept different viewpoints and reach a shared decision. Students reported to have appreciated different patterns of participation (in pairs/in small groups, etc.) that let them visualize learning as a social practice and a shared responsibility.

The individual tasks as well were relevant opportunities to reflect on the relation between autonomy, space-time and social attitudes; students asked themselves if having the chance of freely modulate their learning space and time in a number of activities helped them acquire a major awareness on how to manage space and time when working collaboratively.

Conclusion

Space-time of learning is to be seen as both opportunities provided by the professors (e.g. tasks, feedback, etc.) and students' actions in direction of an autonomous management of their learning process (e.g. study time, reflection time, etc.).

When the teaching /learning process occurs online through digital environments and tools the space-time seems to be enhanced by affordances offered by technologies and the case-study here described shows the following results:

- technology enables an effective learning context when a set of space-time opportunities are designed in terms of practical activities to be developed by students: online interaction helped students exercise agency within a system of accountabilities (*direct affordances*);
- different patterns of participation in terms of collaborative activities (focused at the level of the individual learner, pairs of students, group based or whole-class based) allowed students make a flexible use of available space-time according to the task and required outcome (*mediated affordances*);
- a balanced use of synchronous and asynchronous tools made students reflect on different dimensions of «time» and «space» when interacting and encouraged them in taking a more active role in relationship building.

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The Development of Competence in Using Potential Learning Environments for Master's Students in Education

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ABSTRACT: *Life-long and life-wide learning are essential in the lives and work of people. Whilst life environments create many opportunities for these types of learning, knowledge of how to use them is required. The task of education is to help individuals to acquire knowledge and skills that enable them to learn in different environments, but teachers and educators sometimes do not possess these skills themselves. Universities could help to build these skills, particularly in master's studies in education. The question then becomes: How can this be achieved, especially when students have often formed thinking structures that do not facilitate such styles of learning? This paper aims to introduce the development of the competence in using potential learning environments for master's students in education from the perspective of both teaching and learning.*

KEYWORDS: *potential learning environment, educational environment, personal learning environment, competence development, students in education*

Introduction

The fourth industrial revolution (Schwab, 2017) and the Bologna process (Bergan, Deca, 2018) raise the challenge of educating future professionals so that they are ready for organizations that apply ever-improving artificial intelligence (DeCanio, 2020), where many jobs will be performed by computer systems which are capable of learning (Lieberman, Selker, 2000). Moreover, in the near future, professionals might need to compete with these systems of artificial intelligence.

This is a great challenge for all educational institutions, particularly for schools and universities. Individuals should be equipped with meta-learning skills (Watkins, 2015), and should be assisted in becoming self-directed learners motivated to learn continuously «every time and everywhere» (Robertson, 2019). The need to develop the skills that enable individuals to learn «every time and everywhere» challenges educational institutions to prepare students for real life, and to develop their readiness to identify and use information which already exists in different

environments or is produced instantly in a specific place/space. However, some educators are not only missing the competence to teach students how to apply the opportunity to learn in different environments, but also lack the competence to use these environments for their own learning (Biesta, 2015).

When analyzing the problems of teachers' learning, researchers focus their interest mostly on the following topics: problems of qualification development (Jensen et al., 2020); learning factors at school (Cobb et al., 2009); participation in informal learning (Lohman, 2006). Unfortunately, very few publications exist that relate to teacher learning in a specific environment.

At the same time, there are many studies – especially in IT – that analyze learning environments from different angles, for example: how to use the classroom as a learning environment (Lin, Jou, 2012), or how to create different learning environments (Paniagua, Istance, 2018). However, an issue lies in the fact that, in the context of these and similar works, the term «learning environment» refers not to the environment in which *learning is realized*, but only to the environment in which *learning may or may not be realized*. This indicates that the term «learning environment» is used too broadly, and must instead be specified more precisely. Without understanding this fundamental principle, the impression may persist that the predominant feature of these environments is their capacity for learning. In reality, individuals have to put effort into recognizing the environments which surround them as learning opportunities, and must know how to use them further. A more precise understanding of learning environments comes from the theory (Jucevičienė, 2008) of Educational and Learning Environments (ELEs). This theory explains that all informational spaces can, at first, only be *potential learning environments* (PLEs), and provides a set of factors that enable them to be both transformed into *personal learning environments* (PeLEs) by learners, and actualized into *educational environments* (EEs) by educators.

Despite this knowledge, the following question remains unanswered: How can one learn to recognize and use a variety of potential learning environments so that they can be transformed into personal learning environments? In other words: How can one utilize the full potential of PLEs? This is a challenge for people who want to efficiently learn «every time and everywhere», and the task for educators is to assist in the implementation of this goal. The kind of knowledge needed for these educators, especially for teachers, and the method of encouragement for developing such a kind of competence are problems for educational research. One way to solve this problem is to focus on master's studies in education. University master's degree studies in education most often attract people who work in various pedagogical fields – consequently, most students have some teaching experience.

The research problem considered in this paper is: How can students' competence in using potential learning environments in a master's course in education be developed?

This paper aims to introduce the development of the competence of using potential learning environments in the education of master's students from the perspectives of teaching and learning.

The research strategy used was a case study based on triangulation, and data was gathered by several research methods: observation, interview, and document analysis.

1. The theoretical framework

1.1. Educational and Learning Environment theory

ELE theory (Jucevičienė, 2008) allows for an environment (which could be understood as a real or virtual informational space which surrounds a person) to be recognized as a potential learning opportunity. It may be referred to as a potential learning environment. Whether a person will use all, part, or none of the environment for their learning depends on various factors of the person and that environment. Only the part of the PLE that is identified by the person and is used for their learning can be called a personal learning environment. A PLE may already exist in ordinary life or may be created with a particular purpose in mind. A large number of PLEs are created with a special, educational goal – these are known as educational environments. In some ways, an EE is also a form of PLE, but in terms of ELE theory it is generally agreed that PLEs and EEs should be distinguished as two different types of environments. This is because an EE is always created with an educational goal in mind, while a PLE exists or is created as an informational space without any specific educational goal.

After a PLE and/or an EE is recognized by the learner, the learner likely transforms all or part of it into a personal learning environment. Usually, this happens when a person performs an activity (individually or in a team) and consciously collects information «through self-reflection and self-analysis or by observing and analyzing other people's activities» (Jucevičienė, 2013), as well as by using various means of communication and gathering information. Due to a number of factors, the learner may not identify PLEs or EEs, in which case would not occur. Learning would also fail to occur if the person identified the PLE but did not accept it as their personal learning environment.

As other studies have shown (Valinevičienė, 2017), ELE theory is accepted as a highly innovative set of information. Therefore, its use as a basis for the construction of knowledge and the development of competence in using PLEs is ensured by delving into various aspects of constructivism.

1.2. Different constructivist approaches

Several constructivist approaches are important for the development of students' competence in using PLEs.

Cognitive constructivism is associated with Jean Piaget, who created the theory of learning through schemata which could be labeled as «mental models» developed in the mind of the learner (Talja et al., 2005). Here, the learner's experience takes the leading place via its interaction with their environment. As a result of this experience, assimilation (adopting new information within existing schemata) or accommodation (the emergence of new schemata) takes place, resulting in the learner's cognitive mental development.

First, schema or schemata (Piaget, 1972) form the basis of the individual's understanding of the world, on the one hand simplifying information gathering, but on the other hand limiting or closing the human mind from the novelties offered by their environment. As Zhiqing notes, schema «restrict our immediate cognition by determining what we can know about and what we cannot. In addition, schema can work for us by helping us acquire knowledge or against us by distorting or excluding our knowledge» (2015, 84). As a result, if the learner meets with information that is either new or does not exist in their schemata, a high resistance stage can follow if this information is too radical for the mind of the learner. An experienced teacher can initiate the process of the information perturbation phase and organize the learning environment to encourage learners to solve problems, resulting in the creation of a «personally meaningful artifact» (Rob, Rob, 2018, 273).

Linking these ideas to the current research, it can be assumed that some students may not be prepared enough to construct new schema for developing the competence of using potential learning environments, and will instead experience resistance to performing suggested assignments during the course of their study.

It was important to follow Prawat's (1996) theory in this research, which explains that a new understanding or schema can be formed through four phases: 1) perturbation; 2) action; 3) reflective abstraction; and 4) schema formation (constructed in the head, and allowing for mediation between the mind and the world).

Sociocultural constructivism, which started with Vygotsky (1978), claims that a person generalizes their understanding through personal experience coming from interaction with the environment, which provides cultural meanings through «language, signs, symbols, texts, and mnemonic techniques» (Hall, 2007, 96). Learned meaning is then internalized in the mind of the learner. However, according to sociocultural constructivism, not only does the environment shape the learner, but the learner also transforms reality (Talja et al., 2005).

This research needs to consider the fact that each student comes from a different socio-cultural environment, and possesses a different level of knowledge and understanding. Therefore, it is important that, while gaining ELE knowledge and exercising PLEs, each student should have

the opportunity to select PLEs that are acceptable for themselves. Differences in students' knowledge levels should also be considered. According to Vygotsky (1978), in relation to the knowledge of ELE theory and its application, some may be at the level of *actual development*. This would mean that they already possessed this knowledge before commencing study. In such a case, learning would not take place; only the knowledge that students already have would be used. At the same time, it may be the case that some students' knowledge is at the level of *potential development* (Vygotsky, 1978). In this case, they would need the constant guidance of a teacher and/or to work together with peers – i.e., with other students who may be more knowledgeable. It may happen that some students at this level are unable to achieve their learning goals. However, students are most likely to be in the *zone of proximal development* (Vygotsky, 1978). This zone indicates that they already had some basic knowledge that allowed them to learn new material, but some aspects of this information may require consultation with a teacher or colleagues.

Constructionism is a learning theory developed by Papert, which states that to learn *this*, it is necessary to make *this* (Papert, Harel, 1991). In other words, successful learning is achieved by making or creating a product (e.g., a robot, a dress for a doll, a story) which is later analyzed/criticized/evaluated by the same learner. In this study, constructionism is used by involving the student in the use of PLEs via the creation of their own PeLEs and EEs.

1.3. Students' competence in using PLEs

Students' competence can be understood from different perspectives. However, as this research is based on constructivism, competence is understood from the perspective of a person's activity performed in relation to an environment (Kelly, 1991). More precisely, this concept of competence is based on Westera's (2001) understanding, and could be presented as «an individual's knowledge, experience, skills, abilities, attitudes, values, other personal qualities conditioning understanding and willingness to deal with concrete intellectual or practical activities and ensure the success of these activities» (Kubova-Semaka, 2020, 130). From the perspective of the capability to use potential learning environments, the educator should have the following competences: 1) to understand that PLEs exist everywhere in life, and why is this important; and 2) to have the knowledge and skills to recognize and use PLEs for their learning, for other people's learning by introducing PLEs to them, and for other people's learning by transforming PLEs into EEs.

2. Empirical research methodology

The *empirical research strategy* was a single case study with multiple embedded units. This allowed us to «obtain a fuller picture of what we

are studying by having different situations to compare or contrast» (Remenyi, 2013, 25).

From the point of view of educational research, there is a focus on the process of adult cognition over the content of teaching (Goddu, 2012), as well as on the qualitative over the quantitative developmental change in cognition. As a result, it was decided to ensure triangulation by using the following *qualitative methods*: document analysis, observation, and semi-structured interview.

The chosen methods allowed the authors to analyze the learning processes as methods of developing the competences of the 21 students (the embedded units).

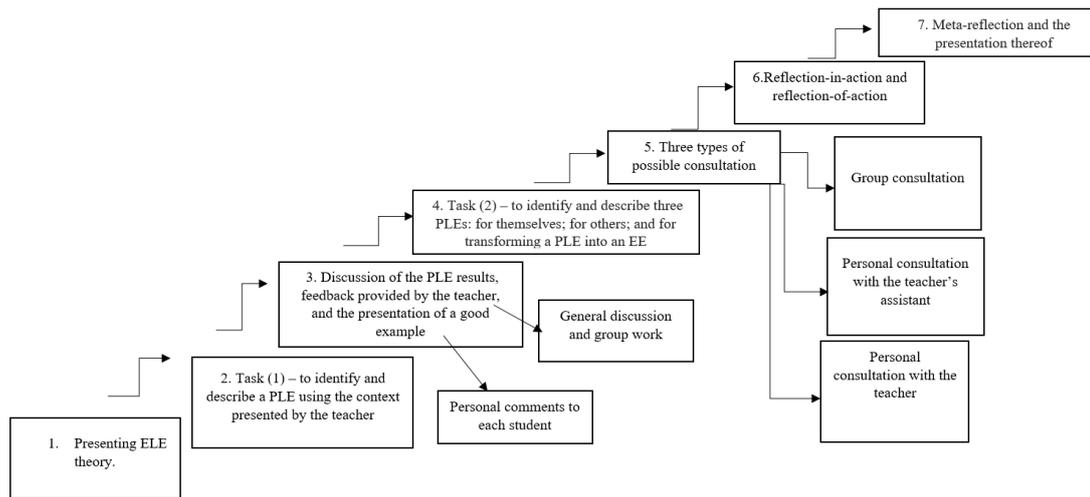
The participants of the case study were 19 females and 2 males, aged from 23 to 48 years old. Of the 21 students, 12 worked in formal education institutions as teachers of different subjects, 2 worked in non-formal education institutions, 5 worked in non-education-related fields, and 2 did not have any working experience, instead dedicating all of their time to their studies.

The impact of COVID-19 on the research. The chosen course was implemented during the COVID-19 pandemic. Thus, classes and other activities took place via distance learning using ZOOM – a new experience both for teachers and students. These special conditions created additional opportunities for this research to record all lectures and to deeply analyze the teaching/learning process. On the other hand, COVID-19 restrictions caused some challenges for students, namely by limiting their access to real-life potential learning environments, therefore the majority were only able to practice with virtual learning environments. The *research ethics* of this study are based on the ethical principles designed by Qu and Dumay (2011). All of the students voluntarily participated in the research, and were informed about the goals and procedures of the research before giving their consent to participate. The research established relation-based ethics, which is reflected in the deep respect for the participants' model of the world. The confidentiality and anonymity of the information received during the research was guaranteed to all participants.

3. Description of the case study

This case study was carried out at a university in Lithuania. It is one of the largest universities in the Baltics, and conducts research and study on a variety of topics including education. This case study concentrates on master's studies in education, in particular on the teaching/learning of the course which focuses on life-long learning. This course was created by an experienced teacher, and one of the tasks of the course is to develop students' competence in using PLEs. To this end, the teacher formulated 7 specific steps (Fig. 1):

FIG. 1. The seven steps of the development of the competence to identify and use PLEs



1. The teacher first presented the theoretical concepts of ELE during the lecture.
2. Students were given the task of identifying a potential learning environment and describing it using the context presented by the teacher.
3. The teacher evaluated the results of each student's work, and provided individual written feedback using a Moodle system. This was followed by a seminar in which common mistakes were discussed and the teacher's assistant provided an example of a PLE. This stage was finalized by a phase of small group work (where 5 groups were organized). The best result (according to the evaluation given by the teacher) was then analyzed and discussed in each group.
4. Students were then given a second task – to identify three PLEs and to use them: a) for themselves; b) for others; and c) to transform the selected PLE into an EE. Special supportive material, which included targeted questions, was also provided to students.
5. Students were then introduced to the opportunity to receive feedback in three possible ways: 1) group consultation; 2) personal consultation with the teacher's assistant; or 3) personal consultation with the teacher.
6. Reflection-in-action and reflection-of-action were then considered. Aiming to conduct reflection-in-action (Schön, 1983), it was necessary to reflect upon the competences, skills, beliefs, and values which were used and/or developed during each stage of the identification and use of PLEs. Reflection-of-action was realized when the task (in the 4th step) had been completed and the three results (a, b, and c) had been achieved.
7. Each student was asked to present a meta-reflection to the entire group of 21 students. This meta-reflection was based on the results of step 6. Each student was asked to reveal the most important

elements of their competence that had been developed during the fulfillment of the second task. Each presentation was then followed by a group discussion.

4. The results of the empirical research: presentation, analysis, and discussion

This case study was implemented in the autumn term of the 2020–2021 academic year. As was mentioned above, the research methods included document analysis (both of the course program and the so-called «products» created by the students as a result of the successful development of the competence), observation of the teaching/learning process, and semi-structured interviews with the students.

In line with Brinkmann and Kvale (2018), a deductive approach was chosen during the interview process because one of its most important goals was to ascertain how the competence in using PLE was developed. First, it was presupposed that a new understanding (through the formation of schema) was likely to have been developed by most students. The process of the formation of schema with the development of a new understanding was considered through four phases, based on Prawat (1996): 1) perturbation; 2) action; 3) reflective abstraction; and 4) schema formation (see Table 1).

TAB 1. The seven steps of PLE competence development in consideration of the four phases of schema formation

Competence development steps / Students	Step 1: Presenting ELE theory.	Step 2: Task (1) – to identify and describe a PLE using the context presented by the teacher	Step 3: Discussion of the PLE results, feedback provided by the teacher, and the presentation of a good example	Step 4: Task (2) – to identify and describe three PLEs: for themselves; for others; and for transforming a PLE into an EE	Step 5: Three types of possible consultation: group (G), teacher (T), assistant (A)	Step 6: Reflection-in-action and reflection-of-action	Step 7: Meta-reflection and the presentation thereof
Accommodation stages (1 – perturbation, 2 – action, 3- reflective abstraction, 4- scheme formation)							
A	1	2	1,2	1,2	2,3 GA	1,2,3	2,4
C	1	1, 2	1,3	2	2,3 GA	1,2,3,4	2,4
D	1	1, 2	1,2,3,4	1,2,3	2,3 GA	1,2,3,4	2,4
E	1	1,2	1,2	1,2	2,3 A	1,2,3	2,4
F	1	1,2	1,2	1,2,3	2,3 A	1,2,4	2,4
G	1	1,2	1,2,3	1,2	1,2,3 GA	1,2	2,3,4
H	1	1,2	1,2,3	1,2	1,2, TA	1,2	1,2,4
J	1	1,2	1,2,3	1,2,3	2 A	1,2,3	1,2,4
L	1	1,2	2,3	2,3	2,3 A	1,3,4	2,4
O	1	1,2	2,3	1,2,3	1,2 G	1,2,3,4	2,4
Q	1	1,2	2,3	2,3	2 GA	2,4	2,4
R	1	1,2	1,3	2,3	2,3 A	1,2	2,4
T	1	1,2	2,3	2,3	2,3 GA	1,2	2,4
U	1	1,2	1,2	1,2,3	1,2,3 A	1,2,3,4	1,2,3,4
B	3	1,2	1,2,3	1,2	2,3 A	1,2,3,4	2,4
I	1,2	2	1,2,3	2,3	2,3 GA	1,2,3	2,4
K	1,2,3	2	1,2	2,3	2,3 T	1,2,4	2,4
M	1	1	1,3	1,2,3	1	1,2,4	2,4
N	1,2	1,2	1	2,3	1,2	1,2	1,2
P	1	1,2	1	1	1,2,3 A	1,2	1,2
S	1	1,2	1,2	2,3	1,2,3 A	1,2,3	1,2,3

Table 1 presents the main tendencies experienced by students during the development of the competence of using PLEs. Students A–U had a general trend of accommodating new schemas, while students B–S experienced a more personalized accommodation process (which could be a topic for future research). The analysis of the interviews and observation data and the discussion of the results are presented below.

Step 1: presenting the ELE theory. This step instigated the active perturbation phase, followed by the negative reactions of students. For the majority of students, this step engendered a rejection reaction, and perturbation was caused by the high novelty of the information. The majority of participants were at the level of potential development (Vygotsky, 1978), which meant that for the majority of them the learning goal was an especially challenging task and they needed a higher level of assistance. Only student B had some knowledge of ELE theory, which they had been introduced to while studying for their bachelor's degree. We supposed that they were at the level of actual development, and had nothing new to learn. However, all further cognitive and behavioral processes demonstrated that student B was more in the zone of proximal development (Vygotsky, 1978), having a basic understanding of ELE theory but still requiring additional collective and personal learning.

Step 2: task (1), to identify and describe a PLE using the context presented by the teacher. During the second stage, perturbation was very high, but the requirement to complete the task allowed learners to turn their attention and activity towards the action phase. This step helped put into practice the ideas of constructionism by enabling students to make a specific product: in their case, this was the identification and description of a PLE. Only student M was still in a state of perturbation due to a high workload from outside their studies, and did not enter the action phase.

Step 3: discussion of the PLE result, feedback provided by the teacher, and the presentation of a «good example». Feedback helped students to reach the first reflective abstraction phase and opened up the schema formation process, while perturbation remained high. It could be said that step 3 served as a bridge for the reflective abstraction stage (Prawat, 1996). Here, students observed the good example presented by the teacher's assistant and held a discussion in their groups, gaining first-hand knowledge and skills on how to identify and describe a PLE. Even student M, who did not provide a personal example of a PLE, managed to enter the reflective abstraction phase via active participation in group discussion. Students P and N, who were still in the perturbation phase at step 3 because of poor health and an extremely high workload outside their studies, were not able to dedicate enough attention, time, or effort to reaching the phase of schema formation.

Step 4: task (2), to identify and describe three PLEs for themselves, for others, and for transforming a PLE into an EE. During task 2, although a new wave of perturbation was encountered, it was much easier to move into the action phase (because of previous experience) and to finalize it by reaching the reflective abstraction phase. Only student P, due to their personal situation, remained in the perturbation phase. All other students managed to reach the zone of proximal development (Vygotsky, 1978) after completing task 2, and were able to learn more independently using the knowledge, skills, and attitudes developed.

Step 5: possible consultation (group, teacher, or assistant). As students were prepared for the accomplishment of the task individually, this step provided additional support and helped them to complete their project and reach the phase of reflective abstraction. Of the 21 students, 18 used this opportunity to receive a personal consultation with the teacher or the teacher's assistant. This helped them to complete the development of their competence in using PLEs. As a result, three different products (Papert, Harel, 1991) were created, which enabled the integration of theory and practice.

Step 6: reflection, which opened up a new wave of perturbation. Despite this perturbation, which was caused by deep reflection as a new activity, 15 students reached the phase of schema development at this stage. This demonstrates that simply making a product is not enough, as it may create some tacit knowledge – only some of which has a high probability of being used in future. Therefore, it is necessary to make knowledge gained explicit, which can be achieved through reflection on practice (Cattaneo, Motta, 2021). This research step shows that it is essential to perform reflection-in-action by writing down important insights and ideas during the process of learning. This allows students to «to cope with the unique, uncertain, and conflicted situations of practice» (Schön, 1983, 9), and also to perform a reflection-of-action, completed after the «product or service construction». In other words, reflection-of-action helped students to evaluate their actions and to make sense of the experience that they had gained, enabling them to use it consciously in the future.

Step 7: meta-reflection and its presentation. Of the 21 students, 19 reached the final phase of accommodation (schema formation), finalizing their understanding of ELE theory. This research has shown that meta-reflection (the phase of analysis after the completion of reflection-in-action and reflection-of-action) with the purpose of revealing the main aspects of the competence of using PLE provides an extra feedback loop for students. It also allows them to see how their understanding has changed their interaction with the world and themselves, enabling deep learning practices.

Conclusions

Learning to use potential learning environments is a process in which most students who participated in the study faced challenges in acquiring and using highly innovative knowledge. The teacher's activity in organizing the learning process allows for the goal of developing students' competence in using PLEs to be developed when it enables students to form new structures of thinking. The case study showed that the seven-stage process of learning, organized by the teacher, successfully assists with the challenges encountered along the four-stage process: perturbation; action; reflective abstraction; and schema formation. Each step served as a stepping-stone in developing interconnected elements of schemata, and at the same time developed students' competence in using PLE.

Perturbation is caused by the high novelty of information presented to students, and stems from the absence of the necessary structures of thinking which might condition the understanding of this information.

From the educational perspective, the essential shift is towards the creation of the opportunity for the «action» phase – i.e., putting the student in the student-centered and «producer» positions, thereby providing for learners' experience and the creation of their own product.

The action phase is finalized with meaningful feedback, which allows students to learn from mistakes and enter the phase of reflective abstraction.

The reflection and meta-reflection phases allow the learner to identify the inner transformations (changes in competence, skills, values, etc.) that lead to the construction of new thinking structures and meaningful learning.

One limitation of the current research is that it represents a single case study, which does not guarantee the same results in a different context. Despite this, it presents material to experiment with when creating learning content aimed at maximizing the development of learners' competences.

The results of this research could be useful not only for scholars, but also for practitioners in demonstrating how to organize learning with the aim of developing skills regarding the use of potential learning environments. Some of the knowledge created by this research could be useful for business organizations which seek the means to encourage innovation from the human perspective. They could also use the knowledge produced by this research to answer the question of why perturbation appears and how to overcome it.

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Classroom Management in Space-Time Augmented by Technology: Teaching/Learning, Blended Learning, E-Learning

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ABSTRACT: *In 2020, education systems bore the brunt of the crisis generated by the pandemic. Due to the containment measures in Italy, as in other countries, schools stopped teaching in presence and started distance learning: a Copernican revolution. Several problems emerged from the outset, falling into two categories: network infrastructure and digital skills. In particular, the difficulties encountered highlight the lack of adequate e-skills of teachers and students. In fact, some researches carried out in this period on teachers' teaching practices show that most of them have transferred at a distance the teaching methods used in presence without thinking about the methodologies to be adopted. The problem, therefore, is not only technological but also methodological. This contribution aims to initiate a reflection on teaching practices in a space-time increased by technologies and to formulate some hypotheses for the design of learning: in the management of the classroom it is necessary to overcome the fallacious categories of distance and presence and to think on methodological approaches consistent with an ecosystem inhabited, not colonised, by technologies. What new characteristics can the classroom take on in the knowledge society? What role do technologies play in the teaching/learning process? How can education be rethought beyond the physical presence at school, understood as a school building? The classroom is dynamic and collaborative, no longer static and competitive and the teacher has to give a new shape to the teaching/learning process. The classroom as a social network and the classroom as a community of researchers are two models around which the teacher can build a dynamic approach to rethink the space-time of learning and think about a didactics that welcomes, not suffers, the presence of technology.*

KEYWORDS: *space-time of learning, design for learning, e-learning, blended learning*

Introduction

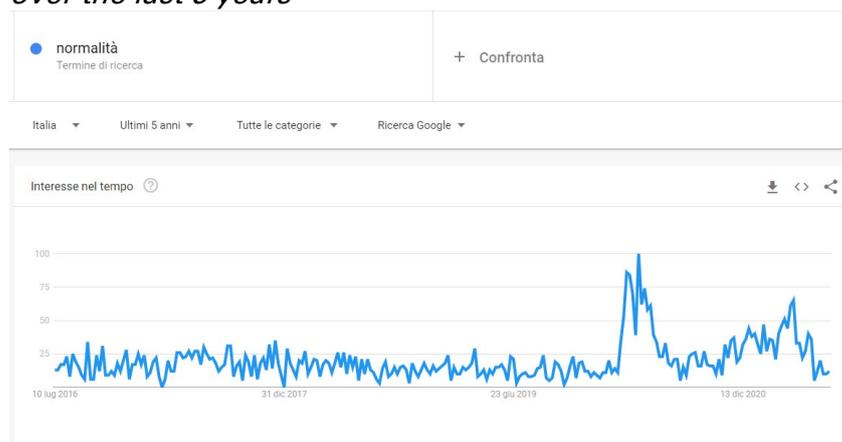
During the crisis generated by the pandemic, education was at the centre of political debate around the world. Overall, since the start of the pandemic, 1.5 billion students worldwide have stopped their education (Sarno, 2020). The lessons of the pandemic are being taken on board by governments and at the recent G20 meeting (June 22, 2021 Catania),

education and labour ministers shared common guidelines: the first response to the global crisis must be to ensure inclusive education for all, breaking down inequalities and disparities. In March 2020, schools face a real blackout: schools close, teaching activities are suspended, face-to-face learning is replaced by distance learning. The role of methodologies and technologies in the teaching/learning process has become central. It was a moment of «systemic educational innovation» (Molina et al., 2020) for the Italian school. The pandemic has shown that education systems, developed on the model of the industrial revolution, cannot postpone a paradigm shift that must pursue the formation of a citizen capable of developing critical thinking and relating to reality (UNESCO, 2020), not performance and production: «Human beings are like the rest of life on Earth – we flourish under certain conditions and wither under others» (Robinson, 2020, 8). According to UNESCO, school is a place of training and education, not just a place where knowledge and skills are acquired. The development of technology does not require the development of technical skills, but the enhancement of general culture and logical and cognitive skills. This vision of the future is shared and is linked to some fundamental questions: to educate new generations to maintain the order created by previous generations and perhaps repeat the same order created by previous generations, or to educate young people to go beyond our ability to think about the future? (Chellini, Gasparini, 2021).

1. The sense of normality between presence and distance

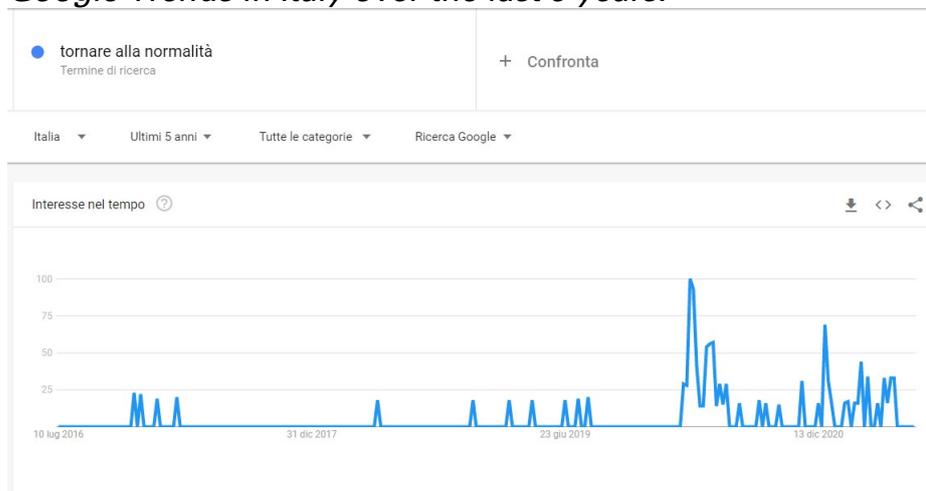
In order to understand how much interest revolves around the concept of normality, we can do a search on Google Trend, a free tool that allows users to have a complete overview of the searches carried out by online users in a given period of time and in a given geographical area. We look for the term «normality» by circumscribing to the geographical area «Italy» and to a time interval including the last 5 years. We can see that user interest in research has had two surges, corresponding to April 2020 and April 2021 (Fig. 1)

FIG. 1. Frequency of searches for the term «normality» on Google Trends in Italy over the last 5 years



Linked to the term normality, the frequency of finding the expression «return to normality» allows us to draw the same conclusions (Fig. 2).

FIG. 2. *Frequency of searches for the expression «return to normality» on Google Trends in Italy over the last 5 years.*



The widespread interest in the subject of a return to normality (not only in Italy, but also internationally) also affects the world of schools. We need to ask ourselves what kind of normality we want to return to: « The most important questions to ask are what type of normal do we want to get back to, and is it the normal that we have left behind us? I believe that it should not be, and that we are at an exceptional moment in time to redirect our course» (Robinson, 2020, 7). Considering the world of education, the norm that everyone expects is a return to face-to-face teaching. The lesson of the pandemic is not understood: the school building that closes, but the school that continues in the Internet network have shifted the attention to some misunderstandings from which it is necessary to get rid – and it was necessary even before the pandemic – to build the new school of the 21st century. The conflict between presence and distance makes no sense in a world inhabited by information and communication technologies:

Knowing how to effectively integrate offline and online teaching is the goal of schools and educational institutions that have understood the differences - both in terms of quantity and quality - between different environments and different spatial-temporal dimensions. (Moriggi, Pireddu, 2021, 228, translated by the author).

We need to get away from the misconception that «presence» means good learning and «distance» means ignorance. This is a complex cultural problem that is difficult to remove. Indeed, taking stock of education during the pandemic period, the dichotomy between presence and distance translates into quantifying the days students are present in the school building and the days they are absent. In March 2021, Save the

Children's report, conducted in Italy on 8 provincial capitals, compared the number of days planned for attendance at school with the number of days actually attended: without any claim to be exhaustive, the research highlights the inequalities within the national school system, determined by different regional choices, considering distance learning as lost learning. However, the idea that true learning depends on co-presence in the same physical space has not been proven and is not correct from an epistemological point of view: if the educational relationship is missing, a lot of distance can be felt even in presence (Pireddu, 2020).

A correct reading of the education situation during the pandemic period deserves further investigation, also considering past experiences. Were there experiences of distance learning for communities that could not access regular education? Take 'Spanish educational radio' as an example. The first Spanish institution to provide distance education was Radio ECCA, an educational centre in Gran Canaria dedicated to adult literacy (Pérez, 2013, 291) in the 1970s. Founded by a Jesuit, the radio station – following a model already in use in Latin America – was a valuable educational tool to overcome the ignorance of the uneducated (Pérez, 2013, 292): «The pedagogical experience demonstrated a high level of success among the 'radio pupils', many women not only completed compulsory education, but also graduated or went on to vocational training» (Pérez, 2013, 295-296). These experiences show us how unfounded simplifications are when we talk about the teaching/learning process. Rewriting the space-time of learning means making possible the design of innovative educational paths, based on a flexible training offer adapted to the needs of adults in a lifewide learning context, such as the course for Sudanese students delivered in e-learning mode on the Moodle platform of the University of Bari to provide knowledge in ICT sectors and enhance the skills required by the labour market (Fornasari, 2019).

2. Teaching/learning practices during the pandemic

The success of the radio as an educational tool is attributable to its popularity and presence: the radio was – and still is – a widespread tool that can reach listeners even in the innermost parts of a country. But is this also true for the Internet? The pandemic has raised several issues from the outset, but the shortage of digital infrastructure and skills are certainly the most important. These are some of the objectives of the Digital Education Action Plan, the European Commission's programme of strategic priorities and activities for the coming years. Digital technology can support inclusive, high quality education and training for all learners. It can facilitate personalised and learner-centred learning in all phases and stages of education and training. There are two strategic priorities in the plan: fostering the development of a high-performing digital education ecosystem and enhancing digital skills and

competences for the digital transformation. The crisis generated by the pandemic has accelerated change in many areas, including education systems. It is necessary to build on this experience by asking the right questions to overcome this transition from analogue to multidimensional education. During the pandemic, did the teachers realise the change that was taking place? Did they start reflecting on how the space-time of teaching was changing? Research conducted on teachers' teaching practices during the 2019/2020 and 2020/2021 school years reached common findings: most teachers transferred the teaching methods used in the classroom to a distance without bothering to reflect on the changes that the new context demanded. This testifies to the dual nature of the problem, which is methodological rather than technological. A recent paper explains this as a cultural short-circuit revealed by DaD (distance learning) itself:

from this point of view, they clearly show the cultural short-circuit represented by those who, in a space-time reshaped by the Net, have insistently tried to replicate the ways and times of interactions and relations (between teachers and learners) typical and distinctive of the traditional classroom (Moriggi, Pireddu, 2021, 232, translated by the author).

INDIRE's Report (2020) on the teaching practices of teachers of all school levels and grades highlighted how teachers transferred the same practices as in the presence at a distance. Synchronous videolessons, allocation of study resources and homework, external evaluation by the teacher are prevalent. The results of the INDIRE survey, conducted on a sample of all school levels, are confirmed by other research. The Fondazione Agnelli's recent research looked at the 2020/2021 school year (Fondazione Agnelli, 2021). In spite of the experience made in the previous year, distance teaching had the same characteristics and shortcomings: the traditional didactic system remained; the school timetable was re-proposed even at a distance without any reorganisation; synchronous video lessons, homework and tests were the most widespread didactic practices; the book continued to be the most used tool. The pandemic school had to resort to the web and teachers found themselves teaching in a completely digital school. This has highlighted the criticalities of online teaching, which are to be found in the unpreparedness on teaching methodologies suitable for online teaching (Nirchi, 2020).

3. Discontinuity and transition: classroom management hypotheses in technology-enhanced space-time

The new situation called for a reflection on learning, which is not separated from the place where it takes place. The environment plays the role of a third teacher, one does not learn by memorising facts but by

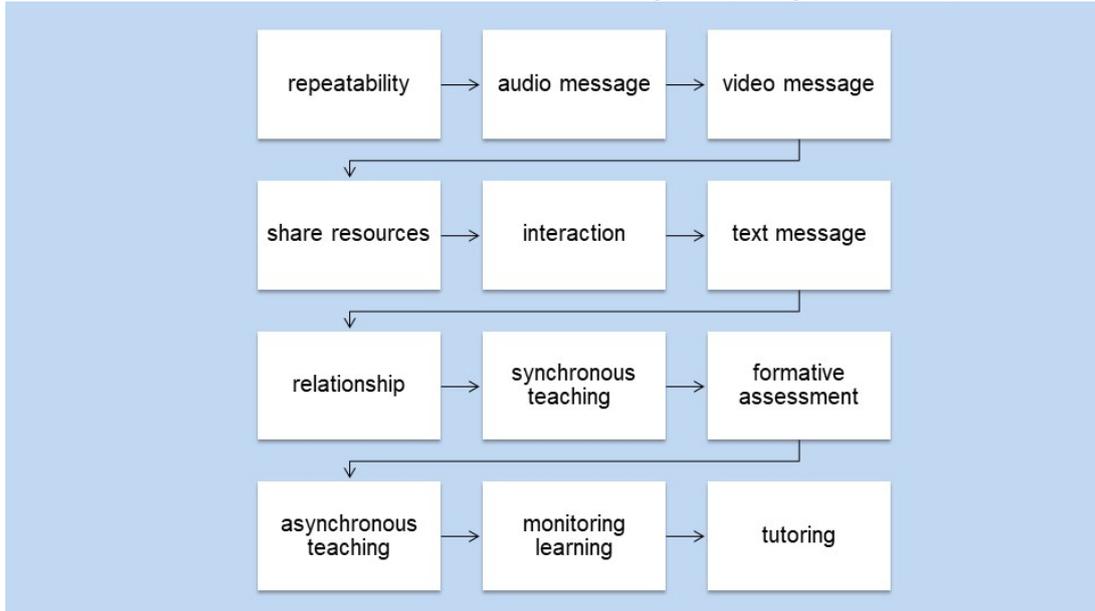
interacting with others: «It is not sufficient any more to think of learning as only being done at school, the context in which we learn is complex and multi-dimensional» (Blyth, 2018, 19). The transition from the classroom to the virtual classroom, from the school building to the digital platform represents a moment of strong discontinuity for teaching practices (Maragliano, 2004).

The shift from the classroom to the digital platform imposed a new design of teaching and learning, a paradigm shift; instead, according to the research results, the transmissive lesson resisted the new interactions through videoconferencing systems. The school has continued the Internet education service without questioning the change that technologies bring to learning, strengthening the social, collaborative and experimental dimension. We need to question the value of this discontinuity, to ask which teaching activities are most effective and which necessarily require presence or distance (Moriggi, 2021). We cannot use technologies in education while forgetting the hybrid nature of multimedia learning experiences, especially without taking into account that on the web, non-formal and informal learning coexist and translate into formal learning (Maragliano, 2004). Teachers should use technology to enable activities that allow students to gain experience, such as research, accessing sources, writing and constructing surveys (De Biase, 2021). The strategic role of technology supports the Digital Education Action Plan 2021-2017, which highlights how technology can be a powerful and engaging tool for collaborative and creative learning. It can help learners and educator access, create and share digital content. It can also allow learning to take place beyond walls of a lecture theatre, classroom or workplace, providing more freedom from the constraints of time and physical location. It seems that for the coming years the Plan projects a learning scenario characterised by discontinuity and transition to a new education system. Learning can take place entirely online or in a blended mode, following times, places and rhythms adapted to the needs of the individual learner. The strategic role of technology is the basis of the Digital Education Action Plan 2021-2017, which emphasises how technology can be a powerful and engaging tool for collaborative and creative learning. Accessing, creating and sharing digital content between teachers and students characterises the teaching/learning process. Moreover, the Plan overcomes the commonplace that learning is only in the classroom, but can also take place beyond the walls of a lecture theatre, classroom or workplace, and this means not only overcoming the constraints of time and physical location, but also following times, places and rhythms adapted to the needs of the individual learner. The expression «beyond the walls» (Digital Education Action Plan, 2021, 2) expresses better than any other the sense of a strong discontinuity with our past as educators. According to the TALIS report (OECD, Teaching and Learning International Survey, 2018), the use of technology in teaching is the most popular professional development topic; in fact, 47% of teachers (in countries participating in the TALIS

survey it stands at 53%) say they frequently have technology used in the classroom for projects and work. The teaching function was already undergoing a change before the pandemic: the teacher is changing from a teacher-orator to a teacher-designer and is not only responsible for disciplinary content, but for the entire learning experience by deploying didactic and digital skills (Sannicandro et al., 2021). Looking at our traditional way of teaching, might we not wonder if homework is not a form of distance learning? And what are the differences between raising your hand in a classroom to ask a question and raising your hand in a videoconferencing environment? Teaching is a complex activity and requires discontinuity with the past: it is necessary to accept that teaching in a space-time of teaching increased by technologies means considering the digital not only a tool, but as « environment/context within which to redesign the learning chronotope » (Moriggi, Pireddu, 2021, 232, translated by the author).

During my teaching experience in secondary school (14-19 years), I have experimented with new methodological approaches considering what changes technologies bring to the teaching/learning process (Lisimberti, Moriggi, 2020). If a smartphone, tablet, PC or interactive projector enters the classroom, what new form of classroom does the teacher have to manage? What new characteristics can the classroom take on in the knowledge society? In this contribution I formulate some design hypotheses for managing the classroom as a digitally augmented laboratory: the classroom as a social network and the classroom as a community of researchers are two models around which the teacher can build a dynamic fabric to rethink the space-time of learning and a didactic that welcomes, not suffers, the presence of technology. When designing learning paths, the teacher should put the learner at the centre: this means that the learner is central to the construction of knowledge developed in different contexts and within multidimensional learning spaces as explained by the ten dimensions of the Mobile Seamless Learning approach (Trentin, 2020). The ubiquitous approach to learning resources, the use of different devices and the plurality of pedagogical models that we can implement are dimensions to be taken into account in the design phase. How does the teacher move in a space-time transformed by technologies that allow us to learn anytime and anywhere? Digital resources, selected for the lesson, are exchanged, archived, repeatable; communication takes place through the exchange of texts, audio and video messages; chats allow for more real-time interaction; the act of assessment is transformed just as the methods of producing the final papers of a course are transformed. As can be seen from the diagram (Fig. 3), the teacher's activities are part of a continuous flow.

FIG. 3. *Flow of teacher activities within a digitally augmented space-time.*



3.1. *The classroom as a social network*

Can the social network be considered a «school»? Inhabiting the network as citizens means, first of all, having a digital identity, giving oneself an image of oneself and presenting oneself, communicating what one knows how to do, taking stock of one's skills and submitting oneself to the validation of the other members of the social network within which one moves: in this sense, being in a social network means being in a school (Maragliano, 2011). Digital identity, caring for one's reputation on the Web, building relationships with others: in the social network, the 21st century citizen learns to become a digital citizen by learning through experience how to interact with technologies and exercise his or her rights. The pedagogy of 'social networking' has identified in the interactions within a social network the potential suitable for the development of new educational scenarios that can overcome the traditional limits between school and extra-school, supporting the development of critical-reflective thinking and transversal skills (Isidori, 2020). How can a conscious, attentive and competent digital citizen be formed? My teaching experiences of social network education were carried out on LinkedIn and were included in the context of the design to implement Alternanza Scuola-Lavoro paths that in 2018 merged into PCTO (Percorsi per le Competenze Trasversali e per l'Orientamento). The teaching path intersects the operational dimension of doing inherent in PCTOs, the key competences for lifelong learning (Council of Europe Recommendations, 22 May 2018) and the European Framework of Digital Competences (Carretero et al., 2017). The creation and management of a profile within a social network promotes the active protagonism of learners, fostering orientation and the ability to make informed choices through the development of a «mental habit» (PCTO, Guidelines, L.145,

2018). The objectives of the activity are based on the DigComp Area 2 competences of communication and collaboration:

2.1 Interaction through digital technologies

- Maintaining one's reputation on the web
- Managing a social profile

2.3 Engaging in citizenship through digital technologies

- Learning to exercise one's rights and duties: the right to correct information, to connect, to be forgotten, the duty to respect the opinions of others and to debate in a fair manner.

Teaching/learning activities are defined within a restructured space-time thanks to the presence of technology both as personal equipment (BYOD, Bring your own device) and as classroom or school laboratory equipment. The teacher explains the delivery, interacts within the social network also with comments on the posts, relates in one-to-one chat to answer questions and guide the intervention; the learner writes a self-presentation and prepares an effective photo, fills in the skills profile, builds a network of contacts, advises and shares the posts of other users.

The activities were designed to be carried out in blended learning mode, recognising how this methodological approach is characterised by the inclusion of context, theory, method and technology, i.e. as the appropriate use of a mix of theories, methods and technologies to optimise learning in a given context (Cronje, 2020). One could not relate this activity to a traditional articulation of school-time or school-space: the teacher can play his role of facilitator anywhere and at any time, observing how the interaction within the network develops and using the history of the different student profiles as a diary for monitoring the activity. Traditional testing methods are not applicable to this activity, but self- and peer-reviewed practices are to be encouraged. Learning through production (a digital artefact, a multimedia presentation) is a way of motivating the learner to reinforce prior learning by reflecting on how to use their knowledge in practice (particularly in digital citizenship practice) (Laurillard, 2012).

3.2. The classroom as a research community

The classroom as a community of researchers is based on the «Bayes class» (Ferri, Moriggi, 2014), a methodological approach inspired by the logic of scientific discovery, a type of setting that transforms the traditional classroom into a digitally augmented laboratory. The class is divided into working groups and the teacher plays the role of research director. The activity is developed from a task linked to the interests of the learners: in this way, motivation is strengthened.

The methodological approach is divided into three phases: construction of the toolbox, cooperative problem solving, situation room. In defining the articulation of the different phases, it is interesting to reflect on how the space-time of teaching/learning changes compared to the traditional structure. In the toolbox phase, the teacher sets up the toolbox: the selection of digital resources (libraries and online archives

for research, tools for delivery), interaction in chats and discussion forums, monitoring of the activities of the working groups, collection of evaluation feedback do not require co-presence in the same physical space. The presentation of the course, the organisation of the groups, the explanation of the methods and criteria for assessing learning, the discussion of the different hypotheses take place in the classroom, in the same physical space. Similarly, group work takes place both in the classroom and in the virtual classroom: accessing libraries and digital archives to search for sources, organising information and keeping a logbook do not require physical presence, while the situation room phase, moderated by the teacher, sees the groups engaged in debate and sharing of the hypotheses formulated. The Bayes class, which has also been successfully tested in university teaching (Baldassarre, et al., 2021), requires a careful design of the teaching setting, characterised by the interaction between learning by research, by collaboration, by production and by doing.

Conclusion

Rethinking the space-time of teaching and learning and experimenting with new classroom management practices in a digitally augmented context engages the teacher in planning actions, selecting materials, forecasting processes, activities that do not belong to our school tradition (Rivoltella, 2021). The role of the teacher remains central because the competent educator must be able to make informed choices about technologies that can be coherently integrated within a digitally augmented educational project (Baldassarre, Tamborra, 2020). The pandemic school has brought some questions into the spotlight: does learning only take place in the classroom? Do teaching and the school building coincide? And these are not new questions, they are questions we have been asking ourselves ever since technologies entered the classroom and, as an answer, we moved them to the laboratories, considering them as separate tools, distinct from the formal contexts. What will the school of the third millennium be like if we are unable to initiate a process of transformation of the school institution, which, as a human institution, is not eternal (Chellini, Gasparini, 2021)? We cannot let the changes we have experienced in recent years fail to bring about an education system based on blended learning (Baldassarre et al., 2021). The idea of being able to go to school anywhere and at any time should not frighten us. The bell, the lesson time, the division of disciplines, the number of hours of teachers and students, the separation of classroom and laboratory, the classes organised by age are (and already were before the pandemic) the past of the school. It is not a question of renouncing the past altogether and saving the idea of the school as a tabernacle of customs, but of recognising the role of the school as a cultural agency

that has the courage to listen to reality because if it does not evolve it is destined to become extinct (Moriggi, 2021).

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Neurosciences in Education. Challenges and Opportunities in Reducing Inequalities and Promoting Inclusion Through Brain-Based Research Approaches

Neuroscience for Didactic Continuity: Reflecting on Teaching Practices to Improve Educational Success of Students

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ABSTRACT: *Brain-based research can offer evidence to facilitate students passing from one educational level to another, a task that is often very challenging for them (Geake, 2016). The assumption is that by working on educational continuity and by employing brain-based evidence, teachers can be more performative and have a better impact on students, in particular when personal autonomy and students' sociorelational skills are concerned (Immordino-Yang, 2017). This is the reason why the research aims at promoting innovative approaches to teaching-learning practices drawing on educational neurosciences. The piloting schools are therefore three schools providing whole k-12 education. Professional development modules are based on collaborative research approaches, having the advantage of actively involving teachers in the analysis of and self-reflection on their teaching practices (Asquini, 2018). This paper intends to report the results of pre-test (T1), with particular reference to teaching practices and to teachers' previous knowledge as for educational neuroscience.*

In order to be able to compare the results with a national standard sample, a standardized psychological test was used. The MESI test (Questionnaire on teachers' motivation, emotions, strategies of teaching) (Moè et al, 2010) examines teacher satisfaction for their work, their perceived self-efficacy, their beliefs in personal improvement on work, and their teaching competencies. This test will be used again in T3. In addition, teaching practices enhancing student autonomy and students' self-paced learning were also investigated through open questions.

KEYWORDS: *Brain-based research, brain-based informed teaching, educational continuity, collaborative research, K12 education.*

1. Theoretical background and research objectives

Today's education systems are facing great challenges, not only as a result of the recent disruptive effect of the pandemic on education, but also due to a continuous rebalancing of the ever broader and more ambitious educational goals. The IULine action research project «Neuroscience for education continuity» (2020-2022) aims to explore the

potential of educational neuroscience to enhance and strengthen the autonomy and socio-emotional skills of students (Dehaene, 2019) in the transition from last year of kindergarten to the first year of primary school and from the last year of that cycle to the first year of lower secondary school. The sensitive periods of the transition from one school level to another were chosen as emblematic of an education system conceived in a sectoral logic, both from an organizational, methodological and content perspective. Within the «Neuroscience for education continuity» project, the educational process has been brought back to the principle of «continuum of experience» (Dewey, 1916) in which it is not possible to separate «the goal from the path, the aim from the trail, the product from the process» (Scurati, 1997, 112). The stages of transition between school levels always represent a delicate moment for the student both on an emotional and educational level, within which the autonomy experienced and the socio-relational skills learned can represent a functional resource for the well-being of the entire group. Being autonomous means knowing how to make decisions and act independently, critically reflecting on the possibility of detaching oneself from role models, and understanding when and how it is functional to ask for help (Hebe Chokler, 2010). The concept of autonomy is undoubtedly a broad term that can be declined in multiple behaviors and stimulated through different strategies; however, it is always necessary to respect the developmental stages of the child and the singularity of each student. The other area of interest of this research work is, as stated, the development of socio-relational skills which refers to the wide range of transversal skills functional to the construction of mutually enriching social bonds, within which the concept of autonomy is strengthened by experimenting with growth stimuli. Social skills, linked to learning, imply the ability to self-regulate and get along with others, therefore also to be autonomous, and have been identified by many authors as necessary prerequisites for learning from the first years of life (Raver, Knitzer, 2002; Denham et al., 2006; McClelland et al., 2007). Another important element in this regard has been highlighted by some longitudinal research according to which socio-relational skills are often predictive with respect to the achievement of educational objectives in subsequent school levels (Shields, et al., 2001; Zins, et al., 2004).

Ultimately we can affirm that socio-relational skills and autonomy are connected personality features that allow being with others critically, free from forms of dependence and conditioning, but on the contrary profoundly free and independent. The opportunity to adequately stimulate these skills, making them maximally functional in the transition phases, asks teachers for an early commitment (i.e. from kindergarten) and broad and long-term planning skills, which they find in the psychological, pedagogical and neuro-scientific sciences fundamental reference works (Siegel, 2001; Geake, 2016; Immordino-Yang, 2017; Oliverio, 2017; Dehaene, 2019). It is therefore not a question of training teachers in a single method or a defined number of teaching strategies,

but rather providing them with a set of functional contents to reflect on their teaching practices in relation to the opportunities for developing socio-relational skills and the autonomy of their students. In this way the teacher activates reflexive and recursive processes, becoming, as Schön (1993) states, a researcher operating in the context of his/her teaching practice, capable of building new theories.

S/he does not keep the ends separate from the means, but defines them interactively, while s/he structures a problematic situation, s/he converses with the situation, without separating thought from action. S/he thinks about the problem until when the decision is turned into action. In this way the teacher's reflection can proceed even during action and in situations having a high degree of uncertainty or peculiarity, because it is not limited by the dichotomies of the so-called technical rationality (Schön, 1993, 94).

The aims of the research are therefore descriptive and evaluative, guided by the following research questions:

- Can a brain-based approach applied to teaching change teaching practices and learning design, with an eye on educational continuity?
- As for students attending the last year of pre-primary school and the first years of primary school, does this approach affect their autonomy skills?
- As for students aged 10-12, does it affect their ability to identify study strategies in line with curricular content specificities and their cognitive styles?

In order to answer these questions, the research approach was configured starting from an on-line professional development course for teachers aimed at stimulating their reflection on learning/teaching practices. The course consists of 3 modules, each of which is divided into 7 video-lessons lasting about 25 minutes each, enriched by in-depth materials and work proposals. The first and last modules are addressed to all teachers, while the second has been split into 2 sections, one addresses teachers in the kindergarten-primary school transition phase and the other addresses teachers engaged in the transition classes between primary school and lower secondary school (Fig. 1).

The choice of contents, far from being exhaustive, intends to stimulate a multi-perspective reflection on the topics considered which, starting from brain-based research, integrates psychological analysis and pedagogical suggestions. The topics covered were also identified on the basis of a literature review work and on the consideration of professional development needs as identified during discussions with some school leaders and teachers. At the end of each module, a webinar was run with researchers and content authors to provide opportunities for discussion and exchange with and among the participants. The course model also foresees a course tutor, available for further clarification and active in moderating the online discussion. A face-to-face summer school was also

planned in order to support collaborative work among teachers. Due to the pandemic, this event was rescheduled as an online task. New, specific reflection tools were therefore developed for teachers.

FIG. 1. *Course contents and structure: Neuroscience for educational continuity*

Course			
<p>Module 1. How the learning mind works</p> <ul style="list-style-type: none"> •1 The memory systems •2. Brain adaptations and neuroplasticity •3. The factors that influence learning •4. The mechanisms that regulate attention •5. Emotions and learning •6. Motivation in school •7. Are you born or made intelligent? The neuroscientific basis of intelligence 	<p>Module 2A. Kindergarten and primary school</p> <ul style="list-style-type: none"> •1. Play and neuroscience •2. Brain and movement / Outdoor learning •3. Brain and art •4. Brain and music •5. The power of storytelling •6. Brain and mindfulness •7. Attachment theory and the brain 	<p>Module 2B. Primary and lower secondary school</p> <ul style="list-style-type: none"> •1. Effective learning strategies: learning to learn •2. Formative evaluation (documentation, feedback, etc.) as a learning support •3. Active teaching: neuro-scientific basis •4. Create a brain-friendly classroom climate: relationship management and communication •5. Digital tools to support brain-friendly teaching •6. Autonomous learning and tutoring •7. The self-regulation of learning and the neurobiological basis of metacognition 	<p>Module 3. Learning design with neuroscience</p> <ul style="list-style-type: none"> •1. Creating brain-friendly lessons •2. The importance of making mistakes •3. The principles of Universal Design of Learning •4. Technologies and the brain •5. Making learning visible •6. Brain and social skills: strategies for working in a small group •7. Resources and materials for teaching

2. Research methodology

2.1 *The teachers' theories*

The research methodological approach uses both qualitative and quantitative investigation techniques, according to mixed model methods (Creswell, 2003). The purpose of the research is descriptive and evaluative.

In terms of school involvement, the approach can be ascribed to participatory and collaborative research models, based on the analysis of practice as one of the core actions for the professional development of teachers (Magnoler, Sorzio, 2012). Reflecting on teachers' practice is a way to reflect on thinking habits and this informs teachers' theories on how students' learning happens. This approach is also based on the assumptions that educational research cannot be done without having the teachers playing an active role. As in Schön work (1983), the teacher is a reflective practitioner. Moreover, in such a collaborative research approach the teacher himself becomes a researcher who, together and in

dialogue with IUL researchers, co-builds the documentation of the practice that serves as a basis for a comparison of perspective, circularity and triangulation of the analysis of educational processes and products.

In accordance with the perspectives of co-research and research-training (Mortari, 2007; Magnoler, Sorzio, 2012; Perla, 2015), this circularity and triangulation is based on various sources and moments of connection/sharing, as well as the consideration of the point of view of various stakeholders.

In this context, the roles of teachers and the one of researchers are synergistic: on the one hand, the researcher-trainer, carrying out a synthesis and a connection with the theoretical foundations of literature, proposes changes on particular data emerged from the brain-based research while the teacher experiments, observes, triangulates and returns data, effects, interpretations, etc. in order to prepare an educational program increasingly based on «evidence» and on brain-based informed teaching practices.

Therefore, the innovative approach of this research method – in addition to the new and practically unexplored themes in the Italian panorama, that is brain-based research applied to enhance educational continuity – lies precisely in the desire to enhance and value the professional dialogue between researchers and teachers a crucial construct, that is the *Theories of Thinking* on «teacher thinking», being that a central factor in the students' learning achievement.

2.2 The tasks for the teachers

The collaborative research project foresees three tasks – called «activities» for the teachers, the first two are individual tasks and the third is a collaborative one.

The tasks are described in details hereof:

1. Task no. 1 (individual): this was a task intended to gather the teachers' profile in terms of demographics, initial expectations, teaching and learning practices, information on neurosciences and their use or application in their classrooms and with their students, especially as for study approach and learning autonomy.
2. Task no. 2 (individual): this was a metacognitive task in order to get teachers' change in their mindset after the 2 main training modules. The metacognitive objective was based on the Thinking Routine «Connect-Extend-Challenge», a tool designed by Project Zero (PZ), a research group at the Harvard Graduate School of Education. The Thinking Routine «Connect-Extend-Challenge» is a tool aimed, as all Thinking Routines (TR) by PZ (Richard et al.), at eliciting the high-order thinking skills and helping teachers and students to change their attitudes. The TR is divided into three steps: the first one asks the respondent to say if and how the information s/he received connects with his/her previous knowledge and/or practice; the second steps asks to say how the information s/he received expands or extends what s/he already

knows; the third asks the respondent to reflect on her/his puzzles, questions and wonders. This TR is useful both for metacognition from the learners' side and for the research point of view since it is possible to detect areas where learners (teachers in this case) have difficulties and areas that are instead well covered by prerequisites.

- Task no. 3 (collaborative): this task is the core business of the training course and it is connected with Module no. 3, dealing with practical models and structures for designing brain-based lesson plans. The researchers asked teachers to form groups of 4 or 5 people, possibly teaching at different school levels in order to enhance educational continuity. First of all, the learning design scheme foresees the choice of one theme among the ones dealt with in the 4 modules, the reasons for the choice and the addressed students. The second part of the scheme asked for the curriculum subjects to be covered and the teaching strategies to do that. The third part was dedicated to the detailed description of what the group planned to do in terms of schedule, students grouping, learning environments, resources, and technology. One question was about the evidence on which such planning was based in terms of literature and in terms of possibility to draw any conclusions on practice documentation (Giuidici et al., 2001). One suggestion provided was the matrix from the Universal Design for Learning approach, based on brain-based research, also presented in module #3. The table below asks the group to reflect on their proposal and to indicate how the lesson addresses the four aspects as for different neural circuits dealing with the what (representation), the why (engagement) and the how (expression) of learning. Cultural boundaries are also taken into consideration here.

TAB. 1. *UDL suggestions for brain-based learning design.*

REPRESENTATION - Options for presenting content	ENGAGEMENT - Options for engaging student interest	EXPRESSION - Options for students to demonstrate learning	CULTURAL CONSIDERATIONS
<input type="checkbox"/> Artifacts <input type="checkbox"/> Pictures <input type="checkbox"/> Graphic organizers <input type="checkbox"/> Video clips <input type="checkbox"/> Audio recordings <input type="checkbox"/> Lab <input type="checkbox"/> Lecture <input type="checkbox"/> Other _____	<input type="checkbox"/> Cooperative work group <input type="checkbox"/> Partner work <input type="checkbox"/> Manipulatives <input type="checkbox"/> Movement <input type="checkbox"/> Debates <input type="checkbox"/> Role plays or simulations <input type="checkbox"/> Other _____	<input type="checkbox"/> Written response <input type="checkbox"/> Illustrated response <input type="checkbox"/> Oral response <input type="checkbox"/> Model creation or construction <input type="checkbox"/> Other _____	<input type="checkbox"/> Nature of content & ethnicity and/or culture of students <input type="checkbox"/> Other _____
<i>Briefly describe your approach to each in columns here or in a narrative in "E" below:</i>			
<u>CONTENT</u>	<u>PROCESS</u>	<u>PRODUCT</u>	<u>CULTURAL</u>

As shown in the table, as for representing information and curriculum contents, there might be several options: the teachers might want to use

visual material, audio material, or, instead, use artifacts or more interactive learning opportunities (such as labs, hands-on activities, etc.). Similarly, as for engaging students, the teachers may select several opportunities: they can propose cooperative group work, work in peers, performative tasks (such as Debating or role play), simulations, or manipulative work. When it comes to evaluation, teachers often demonstrate some resistance, being very conservative as for testing: they rely on individual and multiple choice tests rather than open, group and competency-based tasks to assess the students' learning. Therefore, they tend to avoid innovative evaluation and rarely use formative assessment and self- and peer evaluation and part of their own assessment criteria. Instead, UDL and brain-based research call for personalization and differentiation, and as for the expression of their learning, it should be possible for students to show what they learnt in different ways: orally, in written, in illustrations, or in other forms, such as performative or technological and manipulative.

2.3 Research phases and tools

Three K12 institutes were selected in this research activity. In each school, at least 2 kindergarten teachers were involved, 2 teachers of the first and last grades of primary school and 2 of the first grades of lower secondary school, for a total of 56 teachers. The qualitative-quantitative research design is divided into three phases:

Phase I. Teacher training. The first phase, from February to July 2021, is dedicated to the training of teachers on educational neuroscience and brain-based learning design and took place on the IUL platform. The research tools employed aimed at detecting current teachers' practices before the course and at understanding if and what changes emerged due to new knowledge acquisition. These changes will also inform their attitude and behaviour modifications later on, in the classroom.

Phase II. Experimentation in the classroom. The second phase, from October 2021 to January 2022, will be dedicated to classroom experimentation with students. A pre-post data collection is foreseen for teachers and students, as well as moments of onsite observations, to evaluate the impact of what has been experienced.

Phase III. Reflection on the results and development of a community of practices. The third phase, from January to June 2022, will be dedicated to result analysis and teachers' reflection sharing on the results with the teachers involved and the creation of a IUL community, open to everybody, aimed at continuously sharing useful tools for teachers and school leaders interested in the topic.

As for research tools, the following ones will be used: questionnaires for teachers' perception and standardized psychological tests for teachers and students (quantitative), and, during the second phase, classroom observations, focus groups and interviews with involved students (qualitative).

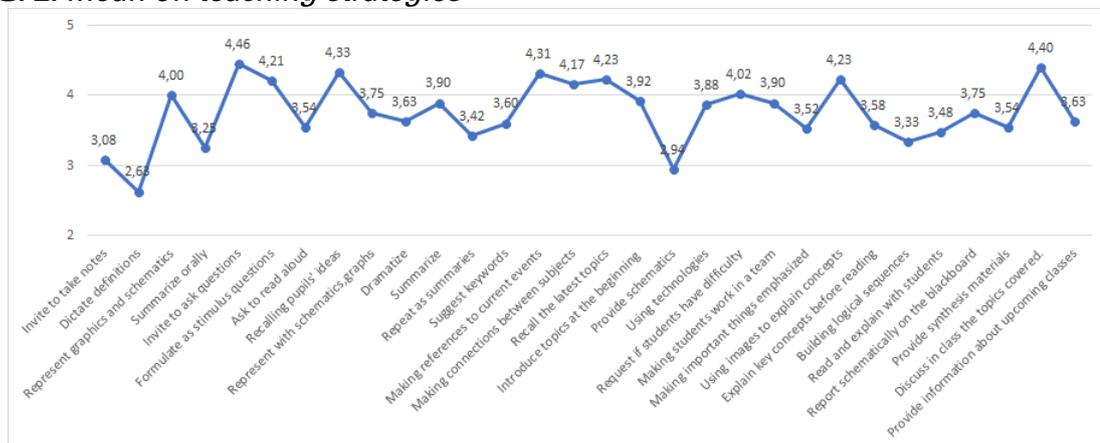
3. Results: teachers' profile

In this contribution, results from phase I of the research are given, namely the analysis of the questionnaire and the standardised tests administered to teachers. From this analysis, it is possible to profile the participating teachers and adjust the training offer accordingly. Moreover, this data collection will make it possible for the researchers to compare the pre-post teachers' attitudes and mindset.

There are 48 participants in this research: 45 females and 3 males. Most of the teachers (34) are from primary school, 11 from lower secondary school and 3 from kindergarten. 12.6% have been teaching for less than 5 years, 25% between 6 and 15 years, and the majority for more than 15 years. As for the age, 16.7% are under 40 years old and most are between 40 and 60 years old; only one is over 60 years old.

Among the participants, 73% had previously read information about the functioning of the brain and its link with learning processes before then. Consider that 80% declare that they have completed over 3 training courses in the last three years.

FIG. 2. Mean on teaching strategies

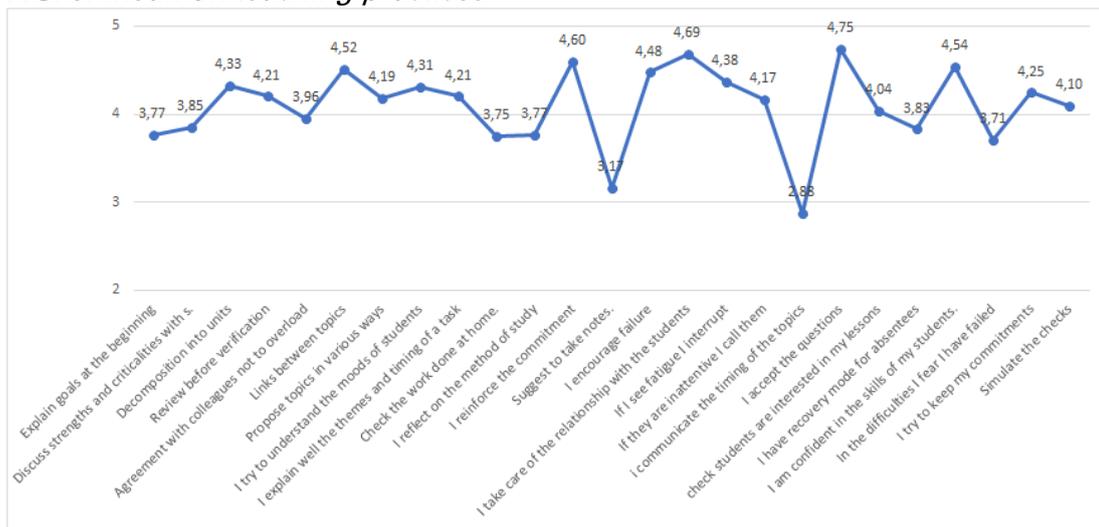


To find out whether there are significant differences as for teachers' profile in our sample and the standard one, comparisons of means tests for paired data were used. We found out that this research sample has no statistical differences between the standard one, for none of the considered dimensions in the test: job satisfaction ($z=.368$, $p>0.05$); questionnaire on teaching practices ($z=-0.13$, $p > 0.05$); questionnaire on teaching strategies ($z=-1.04$, $p>0.05$); questionnaire on incrementality of teaching ($z=0.33$, $p>0.05$). Statistically significant differences emerged between primary school teachers and lower secondary teachers as for job satisfaction ($z=0.15$, $p<0.01$) and efficacy in teaching strategies employed ($z=0.03$, $p<0.01$): both dimensions are higher in primary school teachers. When comes to analysing answers to teaching strategies (Fig. 2), where options are on a 1-5 Likert scale, we note that behaviours such as «sharing vocabularies and definitions with students» (Mean=2.63) and «handing out schemes» (Mean=2.94); the oral communication by the

teacher and discussion is much more used, namely strategies such as «summing up thoughtlines» (Mean=4.46) and «revisiting together the main lesson themes» (Mean=4.40).

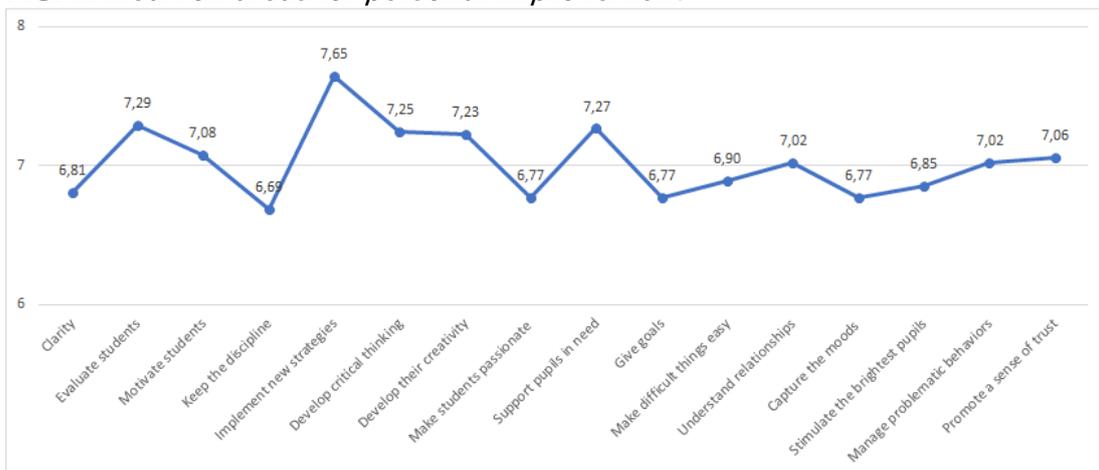
As for answers to teaching practices (Fig. 3), on a 1-5 Likert scale, we found out that the less used strategies are «suggesting students to take note» (Mean=3.17) and «communicating the lesson timing management» (Mean=2.88) whilst the most used are relation-oriented practices, such as «monitoring students' interest» (Mean=4.75) and «Caring about student-teacher relationship» (Mean=4.69).

FIG. 3. Mean on teaching practices



As for the personal improvement section (Fig. 4), on a 1-7 Likert scale, the most selected answers relate to the need for learning «new teaching strategies» (Mean= 7.65), whilst the less selected ones concern the need for managing students' behaviour (Mean=6.69).

FIG. 4. Mean on areas for personal improvement



In order to investigate more closely which teaching practices are used to promote student autonomy, teachers were asked to report practical examples: among the most frequently given answers, we find «group

work», «peer tutoring» and «guided discussions». Mostly, autonomy appears to be a concept linked to «letting them do it alone» with particular attention to the size of the group and the management of communication and organization of activities. Less importance is given to the support «letting them choose autonomously»: four teachers indicate that they «propose the choice between different options» or «propose to continue a task with different types of solution strategies».

Kindergarten teachers also value aspects related to «routines», while secondary school teachers mention aspects related to study strategies teaching.

A couple of teachers say that an element for detecting students' autonomy is also «the organization of the materials that students bring from home».

In reporting examples of practices aimed at developing an effective study method in their students, the majority of answers was given by teachers from the second grade of primary school and onwards: most of them mentioned the use of «schemes and maps»; a small percentage reported reading and comprehension as central keys for learning the study method; others defined the structuring of the lesson and methodologies based on cooperative learning and active learning as specific tools.

Compared to the course on neuroscience in the classroom, 82% of participants expect to improve how to propose their activities in the classroom, while 71% also expect to improve aspects relating to their relationship with students.

4. Discussion

The teachers participating in our research already have years of professional experience at school and mainly belong to primary school: with a view to the continuity of the 3-13 age group, this is the segment that is most interested by this research, even if the scarce presence of school teachers of kindergarten represent a critical element for the objectives of the study. Overall, teachers all have a positive attitude towards the training on neuroscience applied to education, which confirms how the selected schools are institutes that invest in this professional development in general. However, our sample does not differ statistically significantly from the standard sample and therefore the population mean; our sample is in line with the population as for job satisfaction, teaching practices and expectations on professional development. Primary school teachers are also those who report greater satisfaction with their work and declare using innovative teaching strategies more frequently. Both the standardized test and the questionnaire show that the higher expectation with respect to the course is related to the learning of new teaching strategies. The emerging profile is that of a teacher who is already very aware about relational and

emotional aspects in learning, that are the topics on which s/he feels less need for improvement and guidance.

Conclusion

This contribution describes the results of the questionnaire administered at the beginning of a training course on the application of neuroscience in the classroom and aimed at promoting student autonomy and improving students' study methods, with particular attention to continuity between the different levels of school.

The analysis of the needs and the awareness of the characteristics of the teachers allowed researchers to reflect on how to adjust the design of the course to the addressed teachers and to finalize the course syllabus, taking into account participants' expectations. From the profiling of the participating teachers it emerges their need to learn new teaching strategies, rather than improve relational aspects: the contents of the course and the proposed activities go in the direction of stimulating a reflection not only of the teaching strategies, but of illustrating how to plan the time scheduling and learning environments of the school. In terms of content, it turned out that the course syllabus respond to the teachers' training needs, as it cover themes such as the functioning of the brain and how to structure lessons according to brain-based research evidence so to improve teaching/learning efficacy and effectiveness and eventually developing students autonomy and socio-relational skills (Scurati, 1997; Sousa, 2016). In terms of processes, Thinking Routines contribute to building the reflection of teachers starting from the documentation (Giuidici et al., 2001) in order to activate recursive processes of knowledge, typical of training research (Asquini, 2018).

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The Mental Experiment as a Resource for School Learning

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ABSTRACT: *The mental experiment is a construct developed by the philosopher E. Mach (1905), for which it represents «a preliminary condition of the physical experiment. Every experimenter, every inventor, must have in mind the apparatus that must be built before translating it into action [...] Before investigating the falling motion, which he only knows, through observation and reflection, that the speed increases, Galilei tries to guess the type of increase. His experiment becomes possible only by controlling the consequences that derive from the hypothesis»(Mach, 2017, 222, 228-229; TdA). The epistemic dynamism that governs the mental experiment involves significant reverberations also on learning processes. The reasons for this relevance refer to three basic reasons: a) the thought experiment has a constructive function. It generates new knowledge, because it processes the «known» to build further segments of knowledge around it. This potential lies in the analogies that are established between empirical experiment and mental experiment. Although focused on different contents, these two epistemic forms both operate through a process of variation. The difference is that while in the empirical experiment the variations involve concrete objects, in the mental experiment they operate, instead, on the mental representations of those objects. In terms of learning processes, the reference to this last dimension implies a different way of understanding the relationship between theory and practice, and also the notion of «learning through doing». This dynamism, in fact, suggests that it is possible to give learning a practical value, even through theoretical tasks. b) The mental experiment, although it takes place through paths that do not imply an immediate reference to the experience, does not qualify in purely abstract terms. The activity of variation that represents the focus of its dynamism involves the carrying out of operative acts and epistemic modulation that have as their object the previous knowledge acquired by the student during the learning experiences; c) the mental experiment allows you to address the learning acts on aspects that are relevant to the acquisition of concepts, but which are not immediately deducible from experience. It allows you to focus learning around what is «subtracted» from the experience, not because it is unreal, but because it qualifies in terms of «possibility» (Buzzoni, 2009, 144 ff.). In this sense, its epistemic domain lies in the cognitive potential of the «question», which mentally anticipates the segments of meaning that are provided by the answer. The formulation of «questions» solicits «anticipated» and «possible» representations of the real world, which is not an inductive consequence of an empirical datum, but something that precedes the empirical datum and stands as a background that contributes to its clarification.*

KEYWORDS: *mental representation, possibility, school learning*

Introduction

The theoretical profile of the mental experiment finds its foundations in the themes inherent in the reflections that have accompanied the history of thought. From Plato to the present day, philosophers, scientists, scholars of various disciplines have constantly questioned the origin of knowledge and the role played by the mind in the construction of scientific constructs. Over time the conceptions of the mind have become complex, even if the reflection on its cognitive abilities has systematically focused on the relationships between it and the data of experience.

Without producing undue generalizations, it is possible to affirm that the positions of scholars on this topic can be condensed around three different conceptual nuclei: the core that revolves around *rationalist visions*, the core that refers to *empiricist visions*, and the core that attempts a mediation between these two visions and that offers a *transitional vision* of knowledge

The point of origin of the rationalist visions can be identified in Platonic rationalism, even if in the modern age it undergoes further articulations by authors such as R. Descartes (1981; 1997) and W.G. Leibniz. (2000; 2011)

These scholars, beyond their respective specificities, underline how in knowledge (and in the mind itself), we find elements (for example the ideas of arithmetic, geometry, logic, mathematics) that do not derive from experience and which are independent from empirical sensations. Starting from these assumptions, rationalist visions identify in the mind the origin of knowledge, to the point of identifying in its structures the foundation of reality. An example of such theoretical approaches is found in the Cartesian conception of the I think (which is identified by the philosopher as the only certainty that remains beyond doubt); or in his vision of the pineal gland (understood as a physiological structure that guarantees the connection between the foundations of the mind and the world of experience); or again in the theory of indiscernibles of G. Leibniz (2000), who, relying on purely mental principles, comes to affirm that if two different objects can assign the same attributes, in reality they are not distinct but are «the same object». In recent times, traces of this conception can be found, for example, in N. Chomsky's reflections on language (1980; 1969). According to the Author, in fact, linguistic structures find their origin not in environmental stimuli and in their imitation (he criticizes the behaviorist theories that affirmed this conception)(1964). Rather, it originates from the structures of the mind, which do not derive from experience, have an innate origin and above all influence and define linguistic productions. The Chomskyan theory of language can be considered, from this point of view, as one of the most eloquent manifestations of the rationalist views of the mind. Indeed, it postulates the existence of mental constructs that not only ignore experience, but shape it. These constructs represent the «underlying structures» of each linguistic phenomenon and determine the «surface

structure» of the different languages. Concrete experience therefore arises as a manifestation of the modeling power of the mind and is, according to these theories, totally subjected to this power.

The *empiricist conceptions* of knowledge understand the relationship between mind and experience (and therefore the cognitive power of the mind itself) in a manner diametrically opposed to rationalist theories. The basic configuration of these conceptions can be recognized in the reflections of Aristotle (2017) and, in the modern age, in the philosophies of Authors such as G. Berkely (1959), D. Hume (1957), J. Locke (1972). These Authors, beyond their respective specificities, agree in recognizing the primacy of sensations in the construction of knowledge. The principle that orients subsequent reflections in this direction can be identified in the concept of «induction», affirmed by Aristotle in the Second Analytical (cit.):

when a single object, to which differences cannot apply, stops in us, then, for the first time, it presents itself in the universal soul (since we perceive the single object, yes, but the sensation is addressed to the universal, for example, to man, not to Callias man [...]) It is therefore evidently necessary that we come to know the prime elements with induction. Indeed, sensation already produces the universal in this way (see 402).

The foundation of knowledge therefore does not reside in the mind, but in the «universals» intrinsic to sensations. Compared to them, the mind is totally passive and limits itself only to passively recording what is testified to the senses. The dominance of experience over reason is confirmed by the philosophers of the modern age, even if they consider more the limits it imposes on the mind than the potential it makes available to the cognitive act. The dominance of experience over reason is confirmed by the philosophers of the modern age, even if they consider more the limits it imposes on the mind than the potentialities it places at the disposal of the cognitive act. These scholars agree that the only possible knowledge is that which derives from sensitive data and that no degree of certainty can be assigned to constructs not supported by empirical evidence. Consequently, concepts such as Substance and Causality are deprived of epistemic value. These constructs, according to these Authors, cannot be directly deduced from the empirical universe and rather represent the result of undue manipulations carried out by the mind on sensitive data. The emphasis assigned to empirical evidence leads the philosophers of the modern age to propose a «problematized» representation of knowledge. The contents that can be deduced from such evidences weaken the theoretical value of the constructs and the cognitive value of the empirical data. The world of experience, in fact, only testifies to a regularity in the succession of events (deduced, exclusively from past experiences), not their necessary concatenation that can be extended to future experiences (Hume, cit.); in the same way, sensations can testify with an adequate degree of certainty only the

representations attributable to the immediate empirical datum (simple ideas), but not the certainty of representations that arise from their association (complex ideas) (Locke, cit.). In more recent times, the empiricist positions have found a new elaboration in the reflections of J.J. Gibson (1966). According to this scholar, knowledge derives entirely from the senses, which already find in environmental data all the information necessary to elaborate scientific propositions. Knowledge derives, in this sense, from the connection of elementary sensations coming from objects. This connection, however, is governed, according to the Author, not by the structures of the mind, but by the process of *affordance*. The relativization of the contribution of the mind in the construction of knowledge is evident in the fact that, according to this theory, the criterion that guides the construction of the connections between objects experienced through sensations hasn't mental origins. Rather, it is due to the concrete form of these objects (affordance, in fact), which establishes both the type of bond they can establish with other objects, and the very meaning of the object. The concept of affordance leads the exponents of the empiricist school to exclude the intervention of the mind in the construction of knowledge. Everything we know about the world comes from the world itself, and the internal functions of subjectivity play no role in this process.

The *transitional visions* of knowledge, finally, find their anchor point around the epistemic structure outlined by E. Kant in *The Critique of Pure Reason* (Kant, 1966). The process of a priori synthesis, while not denying the contribution of empirical data, gives back to the mind a role of primary importance in the construction of the epistemic act. The intellect and, even more, the Reason, assume a completely priority function in the elaboration of the scientific statements. The phenomenon, in fact, unlike what its predecessors claimed, does not derive entirely from experience. Rather, it is imbued with a remarkable «mental quotient». The mind, in fact, through its own functions (categories, mental schemes, the function of «I think»), impresses its forms and configurations on the data of experience. This mental activity, even if it can be exercised exclusively on empirical data, nevertheless promises to be completely detached from them. This mental activity, even if it can be exercised exclusively on empirical data, nevertheless promises to be completely detached from them. The mind provides knowledge with the fundamental schemes through which to categorize experiences, organize the links through which they establish reciprocal relations, activate the paths required to build mental images that allow recognition and knowledge of the object. In this sense, the mind defines the ways in which experience must be presented in order for it to give rise to certain knowledge. According to the Kantian view, for example, the mind assigns to experience the categories of necessity when two sensations occur according to an «irreversible succession» (that is, when they proceed from sensation A to sensation B, but not in the opposite direction). In other words, the Koenigsberg philosopher highlights that, apart from mental elaborations,

the sensations are devoid of that intelligibility that is instead recognized by empiricist positions, even if, on the other hand, the mind can only exercise these functions on the data that come from experience. In more recent times, it is possible to find the underlying structure of Kantian positions in the works of scholars such as D. C. Dennet (1978), J. A. Fodor(1975) and S. Ulman(1980). The focus of these positions lies in the concept of *intentionality* (Gardner, 2016). All these Authors, beyond their respective positions, underline the inadequacy of theories that make mental representations derive from sensorial solicitations. Knowledge, on the contrary, is guided, according to these scholars, by rational purposes (intention, in fact), which substantially orient the development of epistemic acts. The mind, therefore, has specific structures that cannot be derived from experience and that are capable of exercising a causal and modeling action on it. Intentions transcend circumstances, as they represent the background that the subject puts in place to define their meaning. In this sense, the person *does not react to stimuli, he responds to the meaning that he himself assigns to the stimuli*. Unlike what is stated in the position of the empiricists, transitional views hold that knowledge (and, therefore, mental representations) are not a «mirror» of the world. Instead, it consists of a process of *interpretation of the world*, which (if performed in a valid way) allows one to orient oneself in it, regardless of whether the mental representations can coincide with the characteristics of the experience. In these positions it is possible to identify, therefore, the fulcrum of the transitional visions of the mind: thought needs experience to know the aspects of reality that transcend it and are detached from it. Experience needs the representations produced by the mind to give meaning to its contents, which without those representations would remain practically meaningless. In any case, the structure of experience *is not deduced from it, because it does not derive from it*. Rather, this structure derives from the power of the mind to confer recognisability on empirical data, which, alone, do not have the power to provide themselves with the structure that makes them recognizable on the level of scientific discourse.

The positions illustrated in the previous pages represent the epistemic background against which to base the concept of «mental experiment». The connotations of this construct, in fact, find their point of reference in the generative processes of the representations that the person forms on the world and which represent the focus of this reflection.

1. Mind experiment: definition

The concept of mental experiment was developed by E. Mach(2017) between the end of the 19th century and the beginning of the 20th century. The assumption on which the construct is based is that each experimenter must «have in his head» an ordered representation of the object of investigation, before exploring it through research. Galileo must

have had an anticipated representation (an «apperception») of the» fall of the bodies», before concluding that it is not the weight that determines the speed of the fall. Moreover, he arrived at this law purely reflexively, without conducting empirical observations or experiments. What, then, is a mental experiment? In very general terms, it can be said that it consists in mentally representing (imagining) a situation, not necessarily realistic and in controlling the consequences that occur in it, when some of its elements are manipulated (always mentally). In the mental experiment, however, the manipulation of mental representations does not take place inductively or deductively. It always takes place by way of *interpretation*. The criteria used to carry out these manipulations, in fact, do not have only logical or empirical values. Instead, they always appear related to the mental construction of an imaginary (but still recognizable) situation; to evocations of previous experiences (that is, to memories); to the ability to establish connections between facts and concepts not only logically or empirically, but also analogically.

These characteristics are found, for example, in many mental experiments that have characterized the history of science as an example, the «sprite» hypothesized by J. Maxwell(1902) to question the laws of thermodynamics; Galileo's(1638) mental experiment on falling bodies; Newton's(1687) bucket full of water, to demonstrate absolute space; the mental experiment of the *scarab in the box*, hypothesized by Wittgenstein(1953) to demonstrate his theories on language.

Those just mentioned are just some of the mental experiments that science has used to build knowledge and, due to their structure, allow to identify the principles that govern the functioning of this epistemic device.

The first element that they bring to prominence lies in the values it assigns to the subjective element. Particularly relevant in this regard are the considerations made by E. Mach with respect to the function assumed by memories in the construction of knowledge:

The possibility of mental experiments rests on the greater or lesser accuracy of the involuntary reproduction of facts in representations. In the memory we can find details that we had not paid attention when we looked directly at the facts. Just as we discover in memory a trait that suddenly reveals to us the character of a man who had remained hidden until then, so memory offers us new properties, previously neglected, of physical facts, and helps us in discoveries» (Mach, cit., 222 – Autor's translation).

The information that allows us to know the object, in fact, is not totally inscribed in the experience and memory, according to the scientist, highlights properties of the object that do not emerge when directly experiencing the facts.

From this basic structure of the mental experiment, two essential traits derive which, in addition to specifying the epistemic potential of the

construct, take on equal importance for school learning processes. Those traits are the *variation* and the *paradox*.

The *variation* consists in mentally assuming the representation of some contents (those represent the objects of the experiment), in «imagining» some variations that affect their shape, their movements, their arrangement in space, etc. and in «imagining» what the consequences derive from these manipulations.

From this point of view, it should be stressed that the consequences of such modulations are represented not only by inductive or deductive means, but also by analogy. In fact, they are elaborated through the use of contents that cannot be immediately deduced from direct experience, but that are part of the mental and cultural background of which the person already has.

An example of «variation» can be found in Galileo's mental experiment on falling bodies. In this mental experiment, Galileo varies the conditions of falling bodies and analyzes the consequences of this variation by referring to a wide repertoire of knowledge that derives from experiences and contents previously acquired and that can be part of everyone's cultural background: he imagines that two grave objects of different weights are dropped together from the tower of Pisa (a totally invented but perfectly plausible experience, which can be accessible to the wealth of previous knowledge already available). He also assumes that the two bodies fall not separately, but linked together by a cord (variation of context). At first, Galileo hypothesizes that the weight of the two objects tied together increases and that, therefore, they fall faster than when they fall alone. At the same time, however, Galileo also points out that the smaller weight falls slower than the larger weight and that this, therefore, slows down the rate of fall.

The way in which Galileo proceeds in the description of the experiment, introduce the second element of the mental experiment that assumes relevance in teaching: the *paradox*. In very general terms, the paradox occurs whenever a particular statement is contradicted by the consequences arising from it. In the experiment on the bodies, Galileo, through a purely mental journey (that disregards field observations, demonstrates how the law that links the speed of fall to the weight leads to opposite conclusions but which both seem plausible (starting from those assumptions, it seems that the objects tied together can fall both faster and slower than when they fall individually.

This conclusion highlights the ability of the mental experiment to generate paradoxes as well as the value they take in the construction of knowledge. When the mental experiment analyzes the consequences of a valid statement, it often comes to deny the statement itself.

In the experiment on the bodies, Galileo, through a purely mental journey (that disregards field observations), demonstrates how the law that links the speed of fall to the weight leads to opposite conclusions, but which both seem plausible (starting from those assumptions, it seems that the objects tied together can fall both faster and slower than when they fall

individually). By purely mental means, using resources such as imagination, variation and paradox, Galileo comes to affirm a fundamental physical law: the speed of fall does not depend on weight.

2. The mental experiment in didactic contexts.

The elements described in the previous paragraph circumscribe the perimeter within which the educational significance of the mental experiment is defined. Starting from these premises, in fact, it is possible to operate a re-activity of three different dimensions related to school learning: a) the dimension the dimension of *doing* and learning by doing; b) the dimension related to the processes of *interpretation of knowledge* c) the dimensions of «necessity» and «possibilities» in school learning processes.

2.1. *Doing and learning by doing*

The internal representations from which mental experiments begin not consist only of *conceptual representations*. They are rather *anticipated mental representations* of facts and situations (Rorty, 1980). For these reasons, they take on the operational dimension of «doing», without reducing it to merely praxic or executive aspects. This result is generally precluded from making concrete, especially when it is presented as a simple behavioral sequence, which risks being extraneous to the most solid elaborations of thought.

In this sense, the mental experiment allows a more precise articulation of the process relating to «learning by doing».

In the learning process activated by the mental experiment, «doing» and «thinking» are connected not in sequential terms (first thinking and then doing) and not even in circular terms (continuous oscillation between doing and thinking, which remain, however, elements external to each other although capable of reciprocal influence.

On the contrary, *in the mental experiment, «doing» and «thinking» are condensed into the same act of learning.*

In this process, in fact, the theoretical act is acted through a practical dynamism which, although it consists of a mental disposition, it replicates in itself the same dynamisms that govern it, when it takes place on concrete objects.

The dynamism just described, having a theoretical and practical value, because it exerts its didactic and formative effects both on the side of knowledge of the world and on the growth of personal ability to «think».

2.2. *School learning as an interpretation*

The other element that makes the mental experiment relevant on the didactic level lies in the fact that the subject, in order to conceive the variations, must not only activate logical or empirical procedures. Rather, he must focus his attention on the totality of his knowledge, acquired

both formally and informally. Such knowledge does not have only a cognitive value; they assume above all an *existential meaning*, since they represent the *keys of reading* that the subject uses to give meaning to the experiences and to decide how to relate to them. Such precomprehensions do not represent requirements of «strict rationality» but rather express the connotations of «reasonableness» (Lipman, 2005). In more specific terms, the representations proper to the mental experiment are not comparable to the forms a priori postulated by the «psychology of form» (Kohler, 2008; Wertheimer, 1997). Rather, they originate from a cognitive dynamic which is systematically determined to establish contiguous links between knowledge and context and to assess the rationality of the affirmations starting not only from their internal coherence, but also according to the repercussions that they reverberate in the contexts within which they are taken. The internal constructions implicit in the mental experiment, therefore, assume in all respects an «interpretative» value. In other words, they express a «vision of the world», that is, a set of criteria that orient the action of the subject in the spaces of life.

The didactic relevance of this process lies in the fundamental principle that governs the didactic model of meaningful learning (Wiggins, McTighe, 2004; Ausubel, 2004; Novak, 2001).

According to this principle, the learning process must be linked to the student's previous experiences. This principle is reflected in the dynamism that governs the mental experiment, because it replicates the same dynamism of the process of «variation» described in the previous paragraph. The modulation of the variation, in fact, motivates us to look not only at the structural configuration of the object, but also at itself same

The mental representation of the situation, of the action sequences, of the interventions that determine the practical representation of the content are derived mainly from the subject's cognitive and experiential baggage. These elements are much broader than the simple application of a rule, principle or procedure to a concrete case.

The methodological-didactic criterion just described finds its theoretical foundation in the studies of authoritative neurophysiologists, such as A. Fodor and S. Ulman.

These scientists have emphasized the importance of acts of interpretation and inference in the construction of knowledge. They stressed that the information necessary for knowledge does not reside entirely in empirical data and/or in behavior. Knowledge needs mental contents that are independent of experience and that are present in the baggage of knowledge that the mental apparatus makes available to the subject. Moreover, E. Mach himself underlines the importance that memory assumes in the construction of the cognitive act. As we have already noted, he assigns to the memory the ability to bring out elements of the object that are not available in the immediate occurrence of the experience.

2.3. «Necessity» and «possibilities» in school learning.

The mental experiment assumes educational and training value because it promotes mental dispositions that allow you to process the experience not only in terms of «necessity», but also in terms of «possibility». It identifies, in fact, traits that are not detectable by the immediate experience of the object, not because they are unreal, but because they are posed not as «given experiences» but as «possible perspectives»

In this respect, the mental experiment is not a device that «precedes» real experience; rather, it arises as an anticipated representation (the «prediction») of a «possible world». This «anticipation/preconnection» does not represent an extension of the empirical data, but rather a representation that precedes it and gives it meaning.

In this sense, the implicit possibility in the mental experiment is much more than a simple hypothesis. It is the representation of a «situation » that is broader and not necessarily opposite, different, or coinciding with the world and with what is known about the world. It is the representation of a relevant interpretative framework that allows you to bring back to meaning a set of data and circumstances that immediate experience is unable to clarify and which would remain meaningless outside that interpretative framework.

The possibility outlined by the mental experiment, therefore, does not assert that «A is x», but asserts that «A can be interpreted as x». This possibility is, therefore, declined as a possible way of looking at the experience and which allows you to orient yourself in a relevant way within it regardless of whether or not it coincides with it.

For these reasons, the mental experiment emphasizes the «metaphorical» and «analogous» dimension of learning. It stands as a resource that enhances the mind's ability to «think in metaphors». The mental experiment does not assert, for example, that meridians and parallels exist; it asserts, rather, that the earth «can be seen» as a sphere crossed by meridians and parallels»; and that the fact of «seeing» it (interpreting/symbolizing it) in this way allows for the relevant orientation within it.

In this sense, the mental experiment establishes the epistemic value of possibility and assumes educational relevance not because it defines something that *could exist* (as in the case of a simple hypothesis); but why, regardless of whether something exists or not, it presents itself as an explanatory value of the experience even when it predicts something that does not exist at all.

In terms of learning processes, this potential allows dual educational gain. On the one hand, it promotes attitudes to conceive realities not only with the category of «necessity» (what it is, and could not not-be), but also through the category of «possibility» (interpreting reality for «what can be» or « for what it can become; on the other hand, it promotes the strengthening of project skills, that is, the ability to conceive the world for what it can become and not just for what it is.

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Equality, Inclusion and Diversity: Educational Challenges in the Time of Global Pandemic

Reinventing Adult Education in Prison at the Time of COVID-19: Equity, Inclusion, New Perspectives

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ABSTRACT: *In the COVID-19 emergency, the reflection on the problems of prison can become a real opportunity for the redesign of new inclusive perspectives starting from the principle of equity and capacity, even in educational contexts on the margins of society. Reinventing adult education in prison starting with promoting the empowerment of person imprisoned (learning to learn) by circulating virtuous educational experiences can give a new educational perspective in prison.*

KEYWORDS: *prison, adult education, inclusion, equity.*

Introduction

The theme of education in prison and education in the penitentiary since October 13, 1989 (13/10/1989 Recommendation 12 of the Committee of Ministers of the Council of Europe entitled *Education in prison*) is constantly addressed by the European community through an active policy of awareness of the issue, which allowed the establishment, by EPEA (European Prison Education Association) the International Day of Prison Education, which takes place on 13 October each year.

In Italy, despite the fact that there is a significant cultural and interdisciplinary movement towards the re-invention of the re-educational process in prison, and despite the fact that there are interesting and significant initiatives in favor of education in prison (a recent example is the national seminar «Beyond prison» organized by the EPALE Unit in 2018), there always remains a situation of precarious balance from the legal and pedagogical point of view to which are associated the serious condemnations by the European Court of Human Rights for humane and degrading treatment of prisoners (we recall one of the latest, that of 2019, where Italy is condemned by the European Court of Human Rights for the case of Marcello Viola, who is appealing against his sentence of hostile life imprisonment, which according to the European Court violates Article 3 of the Convention on Human Rights).

The spread of the SARS-COV-2 pandemic has exasperated and aggravated the prison situation in every aspect of detention leading to a

total blockade of all treatment activities that are functional to the re-educational process.

The health suffering has produced an enormous educational and social suffering in the whole population of the prison, which has found itself to be completely deprived of the right to education and school attendance: most of the detainees, for security reasons, could not take advantage of distance learning.

The ongoing health emergency has revealed a wide-ranging crisis that has generated many difficulties. It has revealed socio-educational weaknesses that we can only apparently say were unexpected. A crisis that, in the Italian context, has highlighted a weakness that has remained hidden for many years: the school in its uniqueness of the formal educational process, depository of an important social function in obvious difficulty in facing the impetuosity of the pandemic.

A crisis situation of the school that is exacerbated when it comes to the issue of 'Adult Education and is complicated in the case of young adults and adults who are in restricted freedom (prison). The *school inside* is still today a suspended school and as a consequence the re-educational process of the prisoner is suspended.

Exactly as for the society outside, also in the prison the sanitary emergency has revealed a deep educational and re-educational emergency. Emergency that has strongly affected the right to education of prisoners in the prolonged absence from school. The school inside is an educational context of learning, it is a context of «situated» relationships, it is an «environment of possibilities» for the construction of a new life project, just like the school outside.

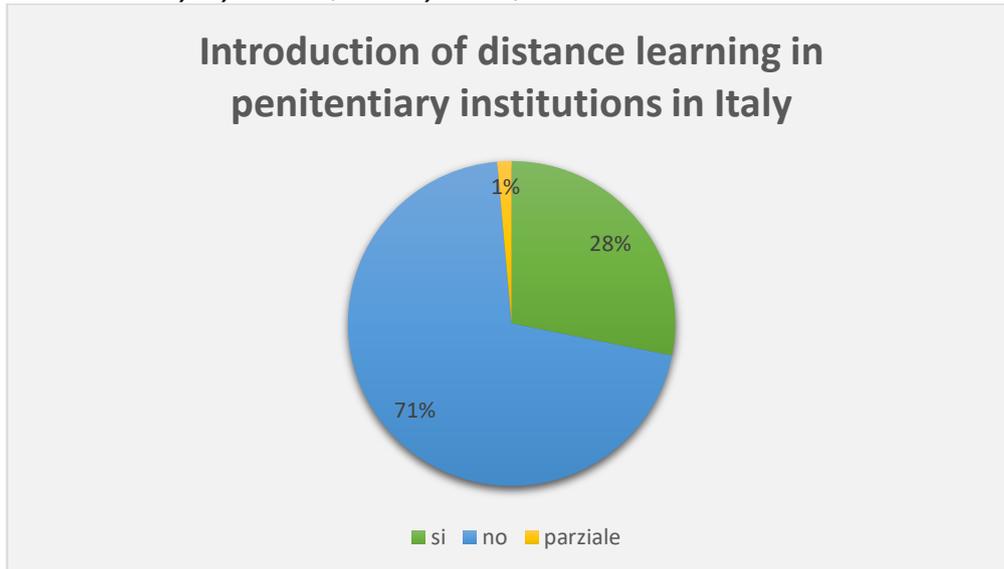
The commitment of pedagogy, faced with this state of crisis, must be to re-think the process of inclusion of prisoners starting from the school inside, from its physical, virtual, mental, cultural, relational space that represents the place of excellence for the transformation of personal and social change.

1. Italian school in prison: crisis announced of an educational model

In the Italian penitentiary system, there are: the elementary school (Primary school), the high school of the first degree (the Secondary school), the high school of the second degree. Some penitentiary institutions are also University Poles.

The CESP – network of restricted schools (Study Center for Public Schools) during the first lockdown (February-May 2020) has conducted a monitoring regarding the provision of distance learning (synchronous school activities) in prison and it was found that only about 28% of Italian penitentiary institutions have managed to activate e-learning paths.

FIG. 1. *Survey by CESP (06 May 2020)*



While the remaining percentage, about 72%, has completely suspended school activities in presence/synchronous mode. Distance learning in the synchronous form has been activated only for the last two classes of high school and for attendance at university lectures (the latter in a few cases).

The non-delivery of distance learning was mostly justified for question security because prisoners cannot have contact with the outside world.

In 2012, in Italy, the Ministry of Education, University and Research and the Ministry of Justice signed a protocol to implement a «Special Program for Education in Prison» with the aim of expanding the organizational and didactic structure of the school in prison in which there is also the proposal to use a «distance» part of the educational path, in recognition of the legal principle that the school inside is and remains «an indispensable element of the program of rehabilitative treatment of the prisoner.

Similarly, in Europe, the idea that technological innovation could have applications in the prison environment was proposed by Paul Downes¹, even before the time COVID-19, who had highlighted the training opportunities that the web could give the improvement of education for prisoners, while respecting the guarantee of security about the communication outside. To this end, he invited experts to design secure technological systems for the delivery of distance learning in prisons.

The European concern with this issue makes us understand how the issue of education in prison part of the growing complexity of society to such an extent is that it also attracts the attention of the complexity theorist E. Morin, who writes:

¹ Dott. Paul Downs, Dublin City University, *6 ways to improve access to education for prisoners in Europe* in <https://epale.ec.europa.eu/it/blog/6-ways-improve-prisoners-access-education-europe>.

Training judges, police, prison staff to understand human complexity [...]. Morin, who on the subject of justice writes: «Training of judges, police, prison staff to understand human complexity [...]. Starting from the school, it would be good to explain to all future citizens that the prison is not the expression of a will of punishment and reprisal [...] hence the need to sensitize citizens [...] and to make them understand that the social reintegration of prisoners is in the interest of everyone [...]. Special education for aggressive children and adults to control their emotions. Humanization of prisons (elimination of overcrowding, possibility of continuing primary secondary or university studies, presence of humanization counselors). The use of work, education, culture and leisure as a means of preparing for social reintegration after release [...] Help and support for social reintegration. It can begin in prison with educational, vocational or cultural programs. (2012, 128-129)The hope is that of a new pedagogical humanism also in the penitentiary field, where the recovery of the centrality of the person in the re-educational process is contextual to the renewal of the training models of the operators to overcome the comfort zone of the treatment activities.

2. European commitment to education in prison

Since 1989, the European Community has drawn up a few documents and recommendations on the subject of adult learning in prison and education in general, with the intention of raising awareness of the subject and beginning to draw up guidelines for a systematic review of education in prison at European level.

Among the most significant documents, we find:

- in year 1995, UNESCO publication of the text «Basic Education in Prison» for adult learning. Great importance is given to basic education to promote the achievement of the internationally agreed goal of ensuring access to the basic level of education (social inclusion).
- in year 2011, European Council expresses explicitly the need to renew adult learning also involving specific groups that are traditionally excluded from learning, such as those in prison.
- in year 2012, "v j g European community publishes the document «Rethinking Education» where it is highlighted the need to rethink the processes of education and learning also in prison to improve the training offer, making it open, flexible and participatory to ensure not only the achievement of basic skills but also to invest significantly on the imprisoned person and on his inclusion process at par with the increasing complexity of modern society.
- in year 2020, "Strategic framework for European cooperation in education and training (ET2020) outlines five areas for innovation in learning processes for adults in general. Among these five we

have traced three those specific to the prison context: 1) improve the quality and efficiency of education and training; 2) promote equity, social cohesion, and active citizenship through adult learning; 3) enhance the creativity and innovation of adults in their learning environments.

3. Investing in the life project starting from the school in prison: educational work and teacher training

In this direction are very interesting suggestions coming from The Prison Education and Training Europe, a summary report authored for the European Commission by GHK Consulting (2013), which states:

Education therefore needs to come together with a range of interventions to address the full range of needs of the individual prisoner. [...] As already highlighted at various points in this report, education and guidance can help offenders to tackle some of these problems by improving their awareness and competences. This multi-faceted, integrated package of support needs to be opened up at the beginning of the prison journey and to continue through to release and beyond. (38)

Another:

The prison context is unique and imposes restrictions and constraints not experienced elsewhere, nevertheless prison teachers and trainers need generic teaching and training skills and competences which are supplemented by additional skills, and capacities specific to the prison context. [...] The work of the teacher / trainer in prison therefore brings with it an additional and in some respects different set of challenges, requiring psychological, social, didactical and pedagogical preparation and on-going support in the framework of initial and continuing teacher training. Thus, whilst it is often preferred that teaching shall be provided by trained educational staff with certified subject area competence¹⁶¹, it also seems important for education and training staff working in the prison context to have access to relevant training related to the specific challenges they face. [...]. (47)

Finally:

Training for prison educators is necessary to enable them to keep pace with changes in the mainstream education system and with the evolving skills requirements of employers. This includes ICT, as both a tool for teaching and a subject of learning, as teachers will still need to be able to facilitate the e-learning process and cannot simply be replaced by the technology». (47)

Once again, it is important to invest in educational policies that jointly envisage a reworking and deepening of education in prison, both in terms

of training of operators and the recovery of the concept of the person as an agent of change.

Conclusion

The educational crisis invites to reinvent the paths of re-education in the prison according to a systemic perspective that, taking into account the new legislative documents, proceeds to the elaboration of a training model of tandem type based on a spirit of collaboration between prison operator and prisoner of participatory type and also supported by new technologies.

It is recognized that the school in prison has a strong heuristic value and that it represents the starting point for a redefinition of theoretical models for to innovate the practice about the training opportunities and professional investment for teachers working in prison and the opportunities for active and responsible participation, as well as conscious and voluntary, of the prisoner to his re-education path in an inclusive perspective.

The post-COVID-19 time represents for prison pedagogy a step change in pedagogical commitment towards the cognitive dimension of models and theories appropriate to a clear definition.

The real challenge for inclusion is to be found in the commitment of educational research for the construction of a clear and solid epistemological frame of reference on the basis of which it is possible to design specific training interventions for the training of trainers and the re-education of prisoners.

A historical challenge that of the commitment of pedagogy in the penitentiary, the traces of which can be found both in the thought of

Victor Hugo and in his statement: «He who opens a school door, closes a prison» and in the famous sentence of Voltaire: «Let me not see your palaces but your prisons, because it is by them that the degree of civilization of a nation is measured».

Equity and educational accessibility are the new conceptual core from which to develop specific strategies and context for adult education in prison.

Going beyond the comfort zone of treatment activities of education in prison means overcoming discomfort and fear of facing new things and responsibly develop the ability to focus on problems, address them through the growth of the ability to believe in themselves and have confidence in others. This makes it possible to initiate a phase of growth that leads to change. A change that requires the re-construction and re-thinking of educational and training models for the definition of learning paths of adult education in prison, starting from specific paradigms and specific training needs of both offenders and operators.

Reinventing education in prison can mean:

- rethinking the function of architectural space in pedagogical terms;

- reinventing the networks of personal, social, and business relationships in the prison environment;
- re-designing the strategies of access to training;
- invest in the educational use of technologies in a way that is compatible with the security reasons of the prison;
- redefine strategies of collaboration and cooperation;
- «doing think differently» by investing in the development of a creative and regenerative action of the re-educational process;
- investing in the development of a sense of active citizenship in order to increasingly reduce educational poverty and fill a community educational need.

Compared to 10 years ago, when M. Pavarini² denounced the lack of pedagogical planning with regard to treatment activities in prison and in particular, the lack of a model of school inside, the situation has unfortunately worsened considerably because of the pandemic. Many rules that recognize the importance of school in prison but little specific attention to the problem, by those involved. In this sense, we outline a new track of research that is appropriately oriented towards a precise and accurate analysis of existing theories and pedagogical models, contextualized and inspired by the principles of adult education, which aims to develop a theoretical model that can guide the practice of prison workers. What is proposed is a systemic rethinking of education in prison, where professional action is inspired by a transformative logic of the person, the context and society, which traces in the *school inside* the driving force for the way of change.

Addressing the issue of education in prison means dealing with an epistemological precariousness that as such does not allow to qualify the activity in prison. Education in prison and the educational value of the *school inside* alert all the capacities of an individual: from imagination to sensitivity, from intellect to emotionality, from relationality to sociality, whose only purpose is to make the subject educating able to exercise autonomously the freedom of thought. The school, even in the case of adult education, proposes an educational project that lasts throughout life and is significant for the construction of a life project. Similarly, this also happens in the *school inside*, where what does not appear in the curricular logic profoundly marks the actions of the teacher, who in the absence of adequate training to deal with the context of the school inside, relies on his free and creative activity to manage the educational relationship, strongly imbued with discomfort and suffering. The purpose of education in prison is to re-educate to social life, re-educate to the awareness of respect for oneself and others, re-educate to the respect of community values. An adult who has undergone an abrupt halt of what J. Dewey calls *character education*, is an adult who must recover the meaning of being an active adult in society that contributes to the social

² Died in 2015, he was a full professor at the University of Bologna and a scholar of international fame in critical criminology.

welfare of society itself starting from his experiential to transform it and make it again master of himself and his interests, responsible and capable of not passively accepting reality. The most recent events that have taken place in Italian prisons bear witness to the urgency of reforms on issues that concern both the re-education process as such, and the training process of the entire prison system, in a transformative perspective of meanings where the previous and assimilated experience of the context represents a frame of reference for new learning experiences.

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Educating in Time of Global Pandemic: Pedagogical Consultancy as a Response to Educational Distress

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ABSTRACT: *This contribution intends to focus on the educational and transformative value of pedagogical consultancy in situations of educational and social distress in time of global pandemic. We will illustrate the theoretical, epistemological, methodological assumptions of an approach to pedagogical consultancy that uses phenomenological and sociomaterial theories to support educational professionals in a process of understanding and transforming distress. Based on these premises, our hypothesis is that consultancy should be conceived as an educational activity for teachers and educators. This means that the counselor must build a learning setting that makes it possible for educational professionals to explore their daily practices and learn from their experience, increasing knowledge of the different factors (subjective, social, relational, organizational, cultural and material), which produce habits, attitudes, speeches, educational actions. From this point of view, consultancy is not only an educational process, but it is also a research practice. The consultant's task is not to transmit notions, nor to offer 'recipes', but to build the conditions for the group to assume an attitude of research, in order to promote reflection on the educational experience and distress.*

KEYWORDS: *Pedagogical consultancy, Distress, School, Educational services, Inclusion.*

Introduction

The global pandemic caused by the SARS CoV-2 virus and the measures taken to face it have upset the organization of individual and collective existence, with respect to time, spaces, relationships and habits that marked our daily life (Ferrante, 2020; Palmieri, 2020). The health emergency is soon becoming an economic, social, political, cultural, educational emergency, which forced to redefine in depth and radically the structure of whole society, the ways of taking care and cure, of using services, to move, to socialize, to communicate, to produce, to purchase

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and to consume tangible and intangible goods, to educate and to teach: «The global pandemic is of course not only a serious public health emergency, but a political, economic and social emergency too» (Williamson et al., 2020, 107). Therefore, schools and educational services are in the middle of a sudden change that has affected both education professionals (educators, teachers), parents and pupils (Mantegazza, 2020).

For example, the switch to online and digital education formats, in the so called 'remote' forms of teaching and learning, have emerged as a consequence of mass closures of schools, colleges and universities. The 'distance education' have proved to be indispensable in order to continue to educate and have inevitably led to emphasize the fundamental role of technologies: «education has become a widespread matter of concern for political authorities, education businesses, charities, teachers, parents and students alike. Education has become an emergency matter, and along with it, educational technologies have been positioned as a frontline emergency service» (Williamson et al., 2020, 107). In other words «The Covid-19 pandemic, and associated measures of social distancing and school closures all over the world, have accelerated this digitization, triggering an urgent need for critical, up-close scrutiny of how this digitization is reshaping the worlds of education» (Decuypere et al., 2021, 1). The widespread adoption of digital technologies to cope with the emergency situation has not only created the conditions for maintaining social and educational inclusion, but has also generated (albeit unintentionally) social and educational distress (Ferrante, 2020; Gambacorti-Passerini, 2020). Indeed, the way in which the educational system has reorganized itself has entailed considerable difficulties for a wide range of subjects. Just to give some examples: to those who do not have the necessary skills to profitably use digital educational platforms; to those who for various reasons (economic, material, due to infrastructural deficiencies, or cultural choices) in their homes do not have the possibility to access the web or to use devices (PCs, smartphones, tablets); to those who have a learning style and a media diet that adapt with great difficulty to digitized educational and didactic methods; to those who already showed weaknesses before the emergency; to those who cannot benefit from an adequate domestic context in terms of available materials and usable spaces. Education is therefore undergoing a significant process of rapid transformation, the outcomes of which appear uncertain and problematic.

The emergency has accentuated the already existing inequalities and created new forms of educational poverty, discrimination, social exclusion and educational distress (Bertagna, 2020; Gigli, 2021). A strong investment of resources has thus become essential in the educational world, to re-invent one's work, one's professional practices, as well as the adoption of strategies to promote inclusion and reduce the negative effects of the current crisis. Precisely to support educational professionals in the persistence of the social hardship they face and in which they are

themselves involved, the contribution of pedagogical consultancy in school and other educational contexts can be a valuable resource (Palma, 2017; Ferrante, 2019; Gambacorti-Passerini, 2020).

1. Pedagogical Consultancy as a Possible Response to Educational Distress

Facing a situation of widespread distress due to the Covid-19 pandemic and its effects, as we wrote before, educational services are facing stressful work conditions that have forced a transformation of professional habits and practices.

Pedagogically reflecting on such a situation, therefore, the paper aims to question about the possibility of thinking and proposing vivid training actions to foster the possibility of thinking about an inevitable re-orientation of educational professionals' practices (Sangster et al., 2020), without losing a knowledge that guides and funds them, even in the exceptional and emergency conditions linked to the health emergency. Following this direction, there is the need to find something that, without denying the distress (Gambacorti-Passerini, 2020), can be able to reveal the opening of possibilities for living in a time of uncertainty: in this sense, a way could be the creation of a proposal to guide and initiate pedagogical processes of interpretation and action, precisely to 'stay inside' the dimensions of inconvenience and lack that characterize educational work in the current situation.

In our proposal, pedagogical consultancy can be a valuable chance in order to support educational professionals facing a widespread distress, as the one caused by the pandemic. While considering pedagogical consultancy as a resource to face distress, we have to clarify which theoretical, epistemological, methodological assumptions for thinking and acting consultancy can support educational professionals in a process of understanding and transforming distress.

Referring to Schein (1969) perspective, we argue that to embrace the problems and the complex aspects that educational professionals daily face, consultancy must be thought as a process, in which the consultant is not a passive receptor of knowledge and solutions, but in which thinking and reflexivity are stimulated and continuously generated, also in order not to depend on the consultant at the end of the course. In this sense, consultancy consists of a set of activities provided by the consultant, which aim to help consultants to perceive, understand and act on the events that occur in their environment. So, consultancy can be thought as a learning setting that makes it possible for educational professionals to explore their daily practices and learn from their experience, increasing knowledge of the different factors (subjective, social, relational, organizational, cultural and material). This learning setting can also be represented as a research practice to question and

explore the complexity of educational events: not a setting where an 'expert' (the consultant) offers pre-established answers (Schein, 2009).

Going further, we have now to focus on the specificity that can define a consultancy as a pedagogical one. Thinking about a pedagogical consultancy, educational experience and work must be addressed in their complexity with knowledge, methods of intervention, evaluation criteria, theoretical frameworks, interpretative paradigms that properly refer to pedagogy (Palma, 2017). It is essential that the pedagogical consultant has a solid competence in thematizing the educational experience, in its intentional and/or spontaneous aspects, as well as on how to set up an educational scene, knowing how to read the effects it produces.

Furthermore, in order to act pedagogical consultancy, in our opinion, it is essential to have a clear epistemological point of view through which we consider what is called 'education' and the modality in which it occurs, since every pedagogical consultant or supervisor explains the educational process using different categories of analysis and concepts, which inevitably influence the way in which he/she observes, analyzes or projects education (Palmieri, 2012). Based on specific theoretical readings and epistemological perspectives, therefore, the consultant's task, with respect to what is written, is precisely to offer an involvement in a process to focus on aspects related to how the educational experience takes place.

In this sense, to grasp the complexity that constitutes the educational experience, mostly with regard to a situation of widespread distress as the pandemic one, pedagogical consultancy can be oriented to a perspective that can allow to consider all the variety of aspects composing the educational scene. Following this direction, Fook (2002) proposes a *hybrid and inclusive perspective* that can offer the possibility to hold together in a single theoretical framework conceptual premises that belong to separate and often opposed research traditions, but that can be useful to consider different and complex factors in the educational contexts. Giving some examples, the effort is the trying to keep together different aspects that are present on the educational setting, as the human and the non-human components, the explicit and the implicit dimensions, reflection and action, language and practice, thought and materiality.

Far from the idea of creating a dangerous and casual miscellany of theoretical approaches to observe and understand what is brought to the consulting scene, a hybrid and inclusive perspective, on the contrary, bets on a meticulous and well-founded theoretical, methodological and epistemological knowledge of the consultants, which allows to have more than one focus to set up the consultative intervention.

The following paragraphs will so be oriented in exposing two different approaches for pedagogical consultancy that can be considered and composed in order to accompany consultants in highlighting the complexity of their educational practice and the contemporary distress in it.

2. Phenomenological Approaches

On the basis of the influence deriving from the phenomenological philosophy of Husserl (1987), which had a great influence on the revisiting of European culture starting from the second half of the twentieth century, a composite movement in the Italian pedagogical area was consolidated, systematized and theorized by Piero Bertolini (1999), which sets a consideration of pedagogy understood as a phenomenologically founded science.

Such a vision of human formation, giving considerable importance on the education of human reason and philosophical reflection on it, also indicates a further line of pedagogical investigation, defined as phenomenological-existential, focused on the re-evaluation of the subject, in its conditions of complexity, but also in its possibilities of signifying and building meaning in the world.

In this sense, referring to phenomenology, working in education, also as a consultant, means to embrace an hermeneutic paradigm, considering interpretation as the capability to *give meaning* to the world. From this thinking, a particular attention is devoted to subjects' tacit knowledge, educational relationships, dynamics of power. Going further, a phenomenological and hermeneutic gaze tries to lead the subject, always starting from problematic, contradictory situations, to *critically* explore (Fook, Gardner, 2007), understand, participate, interpret, grasp the essence of the educational problems and practices. A central point is so constituted by the concept of *reflexivity*, that has a cognitive, transformative, but also critical and emancipative function.

In this framework, the epistemology of pedagogy is oriented to promote an educational operation strongly focused on the relationship between subjects who meet and communicate their own story and their own semantic universe. Educational practices, therefore, depend on human acting, that is strongly connected with cognitive aspects and thinking. Deepening these aspects, thinking and acting a pedagogical consultancy referring to phenomenological approaches means to focus on individual thinking, relational dynamics between subjects, processes of signification.

Furthermore, the consultant will project a work focused on reflection and meaning-making processes, thought as instruments useful to gain knowledge, to be able to choose, to face problems, to modify practices and beliefs through which everyone interprets the world and other people. In other words, it is possible to affirm that referring to phenomenological approaches to think pedagogical consultancy means to accompany professionals in reflecting (Schon, 1983) on their practices and experiences, discussing on the way they think about them.

An important reference about these themes can be what Mezirow (1991) wrote about transformative learning: reflective thinking and meaning-making processes are thought as preferential ways to modify

our points of view, our implicit premises on which we base our reasoning. In this perspective, learning is understood as a conscious, dialogic, critical and reflective process through which the adult builds new interpretations of meanings, even if they are attributed to experiences or thoughts of the past, or he/she can build new meanings, in order to guide the present and guide future action and choices.

Following these directions, referring to phenomenological approaches allows to highlight dimensions of distress situated in the meaning-making processes that inhabit educational contexts and practices. Using reflexivity, narration and other instruments to signify educational work, the consultant can promote an exploration of distress oriented to thematize the consultants' lived experience.

Beyond all the aspects we have highlighted regarding how phenomenological approaches can orientate the way in which education and pedagogical consultancy can be thematized, we have now to note that, while focusing on the themes we wrote before, the phenomenological approach leaves in the background other points. First of all, reflexivity is intended as a sort of 'solution for everything', through which the adult magically transforms any experience into a significant learning opportunity. Reflection, on the other hand, may not produce learning and change in itself. Going on, phenomenological approaches for consultancy think as a starting point (and not as a point of arrival) a self-reflective, free and critical adult, always able to seize learning opportunities. The unit of analysis for this approach is the single subject, thinking of he or she as a person able to consciously access experiences and to control and master learning and knowledge. In this sense, learning processes are reduced to phenomena that are primarily cognitive and individual. The context where learning happens is only a 'container' where an autonomous adult moves freely: subjects and contexts, reflection and action, mind and bodies are thought separately.

Trying to summarize, following these directions, we can say that phenomenological approaches promote a conscious and rational vision of educational processes and therefore it risks to neglect the role of desire, affections and unconscious in learning. It also leaves in the background the active contribution of the body, the objects and the materiality in defining the constraints and the possibilities within which individual subjects think, educate, learn, grow, enter into relationship with themselves and with others.

3. Sociomaterial Approaches

For several decades, philosophy and social sciences have been affected by a radical change of cultural and scientific paradigm. In fact, theoretical and empirical research is increasingly inspired by posthumanist and new materialist perspectives (St. Pierre, 2014; Braidotti, 2019). These perspectives challenge the assumptions of the humanist paradigm and

seek to go beyond a human-centered view, as they believe that such view is inadequate to understand a globalized, multiethnic and hi-tech society in which technological, scientific, cultural and existential changes have rapidly altered previous ways of living and thinking.

As Fenwick, Edwards and Sawchuk stated (2011), also in educational studies a significant change is occurring, linked to the contribution offered over the last decades by some approaches that they have generically defined as 'sociomaterial'. The spread of these theories in the international debate and the paradigmatic shift that they are generating has prompted scholars to affirm that a *material turn* in educational research is underway (Fenwick et al., 2011; Snaza et al., 2016; Ferrante, 2016).

These approaches open up new research directions and coin a new vocabulary to rethink pedagogy as well as educational practices (Fenwick, Landri, 2012). They challenge the primacy ascribed to humans in learning processes and divert the attention from teachers and students to materials and materiality. These approaches analyze learning, knowledge and educational action by decentralizing the focus from the individual who learns, knows and acts. Knowledge and learning do not occur in the mind of individual subjects, but are *collective, hybrid events performed in sociomaterial networks*, which the researcher has to trace and describe (Landri, Viteritti, 2016). Education, therefore, is no longer investigated as if it is only a human prerogative, a cultural, social and personal phenomenon, resulting from relationships and intersubjective communication between teachers and students, but is rather conceived as a performance rooted in practice. Education is the effect of immanent assemblages, which include objects, technologies, spaces, times, bodies, animals, organic materials and individuals. Sociomaterial approaches rely on *relational onto-epistemology*, emphasize the *heterogeneity* of the elements involved in the educational process, and avoid separating individuals from things: «In such accounts, all entities are understood to be mutually constituted – in their distinct boundaries, properties, directions of action, and relations with other entities – simultaneously with the constitution of the dynamic phenomena and events in which they are implicated, within and through the ongoing flux of multiple interactions and connections» (Fenwick, 2010, 107).

Sociomaterial approaches also redefine the concept of *agency* (Fenwick, Edwards and Sawchuk, 2011; Ferrante, 2016; Snaza et al., 2016). They refuse to ascribe agency only to human and recognize the active role of non-human too. For them, material is performative, rather than inert (Fenwick, Edwards, 2013). Namely, things act on and with subjects and vice versa (Sørensen, 2009). Consequently «No one person, place, or thing acts alone or unto itself. Humans and nonhumans interact together» (Helmsing, 2016, 148). Sociomaterial theories «*focus on the relations among entities through which actions occur, rather than entities themselves as the source of actions*» (Fenwick et al., 2011, 166). This specific attention to materiality in action, collective and hybrid

assemblages, allows to identify what directly or indirectly, explicitly or implicitly supports and enables learning and is often shadowed by human-centered perspective (Ferrante, 2018).

Sociomaterial approaches, however, also have critical aspects. For example, in some cases they tend to neglect the specific contribution of the human subject to educational practices. Learning implies complex cognitive activities that presuppose the determining role of humans (Lichtner, 2016). If, on the one hand, it is legitimate to think that learning is an effect of the interaction between human and non-human in both social and material contexts, and therefore what happens in education depends not only on intentions, values, meanings and human actions, on the other hand it makes little sense to deal with the various actors involved in the educational process in a symmetrical way. In addition, sociomaterial research lines tend to produce analyzes and descriptions, but are merely indicative of operational solutions, or even of pragmatic orientations. Of course, being able to rely on precise descriptions and analyzes of specific contexts and certain sets of practices creates the conditions for initiating a possible change in educational policies and daily actions. However, the almost total absence of research application is likely to create a distance between researchers and practitioners and hence may become a hindrance to change. Perhaps also for this reason, those who carry out consultancy and supervisory professions rarely adopt the epistemological premises that can be attributed to these approaches (Ferrante, Galimberti, 2019).

However, such perspectives may prove to be extremely helpful during consultancy to investigate the materiality of learning processes (Ferrante, 2019; Ferrante, Galimberti, 2019). In fact, sociomaterial approaches can be freely adopted to raise theoretical and methodological problems that, in our opinion, are very relevant in consultative practices, and are underexplored in reflective and human-centered approaches, such as the role of materiality and non-human actors in educational settings. Indeed, according to sociomaterial perspectives, learning is a contingent, unstable and changeable phenomenon that is embedded in a peculiar ecology of relationships and is intrinsically exposed to uncertainty and fallibility. From an operational point of view, this implies considering the need to continuously (re)design and (re)build mediations (objects, documents, practices, organizational and material modifications) that facilitate educational processes. In this theoretical framework, therefore, education and distress must be examined by highlighting the heterogeneity of actors, human and non-human, which make it possible to carry out educational processes. During a consultancy is necessary to try to understand how different elements (bodies, spaces, times, symbols, texts, documents, objects, technologies) interact with each other, articulating and disrupting daily educational practices. It is not a question of eluding the issues that arise in relation to values, choices, representations and experiences, but of anchoring them to the materiality of the action.

In summary, reflecting from a new materialist point of view on educational distress means asking how the affective, corporeal, objective, technological, spatial dimensions intertwine, creating and recreating the social and material tangle of educational contexts. At this level, the consultancy focuses on the performativity of educational practices, in order to trace materiality in the enactment of social process and «to engage productively with multiplicity and difference» (Fenwick et al., 2011, 168).

Conclusion

The crisis that has been going through educational institutions for some time and the widespread social distress that has worsened due to the pandemic raise very complex pedagogical issues and represent a difficult challenge for education professionals. Following these directions, practitioners need to be supported in various ways in carrying out their educational tasks. In this sense, pedagogical consultancy can be a valuable resource.

Our hypothesis is that in order to aid practitioners to manage the problems they face and to find adequate solutions, it is necessary to develop a project of pedagogical consultancy based on theoretical and methodological tools that can help teachers and educators to explore from different perspectives the educational practices in which they are involved. If the problems are complex, in fact, the interpretation through which to read, think and face them must also be complex. For this reason, in our opinion, it is more appropriate to use a hybrid and inclusive consulting approach (Fook, 2002).

In this paper we have focused in particular on two theoretical frameworks (phenomenological and sociomaterial ones) that are very different from each other and in many respects incompatible. Integrating them into a single consultancy process is neither simple nor obvious.

However, in a consultancy setting, connecting and hybridizing these very different theoretical frameworks can be useful, as it allows to limit the one-sidedness of each perspective and therefore not run into interpretations that could be reductive. Sociomaterial approaches make it possible to overcome the focus on the subject and intersubjectivity, paying attention to the materiality of education and acknowledging the active role of non-human elements. The reflexive and phenomenological approaches, on the other hand, allow to give the 'right weight' to the human contribution in the process of signification, also taking into consideration the cognitive and affective dimensions of the practitioners, in order to question their tacit premises of thought. From a methodological and epistemological point of view, the challenge is to be able *to reassemble subjectivity, meaning and materiality* within a framework of the whole. This undertaking, moreover, in the pedagogical field has already been attempted by various scholars, although giving

rise to different theoretical outcomes (Caronia, 2011; Sartori, 2012; Barone, 2014; Ferrante, 2019; Ferrante, Palmieri, 2019).

In a consultancy setting this means not only selecting which approach to use according to the circumstances, problems and issues to be investigated, but also and above all devising theoretical strategies to interpret educational practices and distress as complex phenomena, which emerge through processes that are both social and material, individual and collective, involving action and thought, mind and body, people and things, power and knowledge. The point, therefore, is to construct a set of conceptual tools that helps professionals to question their own assumptions and change the contexts in which they act, unraveling the material-discursive entanglements through which the meanings and actions are performed in the daily practices.

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Educational Poverty in Europe: Mixing Education as Certification and as Competencies among Youth and Adult Population

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ABSTRACT: *Educational poverty has become a key reference to consider education as an essential functioning, just as health, social relations, employment, housing conditions and economic resources (Sen, 1992, 1997). Allmendinger (1999) distinguishes between two types of educational poverty: lack of formal education and lack of competencies. We suggest merging the two, considering educational poverty as 1) the lack of a certificate, 2) low level of basic competencies or 3) the two taken together. Adopting this notion of educational poverty, we discuss outcomes from a multivariate analysis we have carried on comparing poorly educated student and adult populations in EU28 countries, UK and Norway. For this purpose, we considered 1) low scoring in mathematics and reading at the OECD PISA tests as a potential predictor of educational poverty in adulthood; 2) upper secondary school dropout rates, NEETs rates and the percentage of young people aged 20 to 39 without a university degree. 3) Finally, among the adult population, we estimated the share of low secondary education attainers and/or lower achievers in literacy and numeracy. We therefore have cross-nationally compared not only the educational levels of the adult population, but also the diffusion of functional illiteracy. Data sources are respectively from: 1) the European Social Survey and Eurostat indicators useful to get the international framework of education levels and illustrative/control variables such as public spending on education; 2) the PIAAC survey on adult skills and 3) OECD-PISA 2018 assessment results for 15-year-old student's abilities in mathematics and sciences. After a preliminary descriptive analysis, data have been computed via (PCA) Principal Component Analysis and Cluster analysis to graphically project countries cluster-groups distributions in relation to latent dimensions. Emerging results stress out the high diffusion of educational poverty especially among the Italian and Spanish population and the need to strengthening policies against poverty in a multidimensional perspective, so that economic schemes tackling economic poverty could be linked to long-term policies aiming at improving basic social skills and therefore reducing the risk of both educational and economic poverty.*

KEYWORDS: *Educational Poverty, Adults Performance; Students Performance; OECD PISA; PIAAC; Multivariate Analysis*

1. Introduction

The multidimensional view of poverty has led many authors to interpret basic skills as an essential dimension of poverty (Reardon, 2011; Khan, 2015; Bonal, 2016). Researchers interpret basic competencies as an essential dimension of wellbeing, since basic competencies contribute to avoiding the risk of poverty and social exclusion, especially in terms of generating resources potentially capable of stimulating the empowerment of citizens, in terms of job opportunities and participation to civic, political and social life in a broader sense (Bynner, Parsons, 2002; Stromquist, 2009).

Different social dimensions play a role in the production and reproduction of educational poverty. The most relevant is embedded in the family of origin which impacts on learning, motivation to study and expectations in achieving via the socio-economic and cultural background. Family's capabilities to give informed and correct advice to children also play a relevant role. In addition, broader social contexts and places of living tend to influence children's learning prospects and educational career, because the availability and the quality of local services and resources such as transports, libraries, cultural institutions, and other cultural services ignite learning, curiosity, social skills and attract cultured upper classes. On the reverse, social complexity within which educational poverty occurs makes it necessary to plan and implement integrated, next-generational policies in order to fill the gap in opportunities and resources that usually are scanty in deprived social contexts (Raffo et al., 2009; Giancola, Colarusso, 2020). Educational poverty has become a key reference to consider education as an essential functioning, just as health, social relations, employment, housing conditions and cultural and economic resources are (Sen, 1992, 1997).

Allmendinger (1999) differentiates between two types of educational poverty: 1) lack of formal education and of 2) basic competencies conceived as reading comprehension, writing and arithmetic capabilities, as well as main scientific principles and selected minimum social skills (Audigier, 2000). In order to account for the various complex nuances of educational poverty, we suggest merging the two, considering educational poverty as: 1) the lack of a school certificate higher than just the compulsory education, 2) low level of basic competencies and 3) the two taken together. Accounted likewise, educational poverty stands not only as a low level of schooling, but also as a shortage of basic knowledges and abilities. If compulsory schooling requirements signal a minimum level of educational achievement, nevertheless compulsory standards differ from country to country and use to change over time. Additionally, the total number of certified years of formal education cannot be translated automatically in an index of educational richness/poverty, since it merely indicates that a certain amount of school years has been completed obtaining the minimum standard in education, but does not guarantee that, years after completion of studies, individuals

are still capable of carrying out basic operations and actions resulting from the acquired skills. In extreme cases, for example, students may be awarded a high school diploma, but still be unable to read, write, or do math at a basic level or in more common cases adult individuals may have lost the pragmatical capability to use the theoretical knowledge they learnt years before at school. Therefore, in educational poverty we also include the inability in mastering basic social competencies such as literacy and numeracy, beyond the possession or not of the corresponding level of education.

Nevertheless, the possession of basic competencies (also considered as foundational, essential or basic skills), if not accompanied by medium or high levels of education, can be a formal deficit: official qualifications retain workers' accreditation to employers as one of the primary sources for selection and allocation along occupational hierarchies (Kjeldsen, Bonvin, 2015). Finally, the third dimension of educational poverty – i.e., the coexistence of low schooling and low abilities in basic competencies – can be considered as severe educational poverty.

To fulfil the purpose of our analyses, which is to compare poorly educated students and adult population in EU28 countries and UK, we have relied on sources of data including educational credentials (education levels via certifications) and basic competencies tested via OCSE-PISA (Programme for International Student Assessment) and OCSE-PIAAC (Programme for the International Assessment of Adult Competencies) assessments. Large international test-based surveys allow the extensive definition of educational poverty presented above to be operationally usable. Such surveys also allow for international comparison and can then be integrated, according to a logic of «distal analysis» (Giancola, Viteritti, 2014). Based on aggregated data such surveys can help to detect different levels of educational poverty as well to provide some policies drivers to tackle poverty in a multidimensional perspective. Of course, data from large international assessment surveys must be treated in a cautionary mode and not to be exploited for competitive and ranking purposes (Volante et. al, 2019, 2022).

2. Data and methods

Adopting the definition of educational poverty as the lack of upper secondary education and/or the basic social abilities in reading, mathematics and sciences, we have carried on multivariate analysis to compare poorly educated student and adult populations in EU28 countries and UK.

Contrary to other studies based on individual data (Salmieri, Giancola, 2021) to estimate variables affecting skills, educational attainment, and thus relative poverty risk, in the present one we have opted for an approach based on ecological dimensions which we have aggregated

according to an exploratory and relational approach between the different selected variables. For this goal, we considered: *i)* low scoring in mathematics and reading in the OECD PISA tests as a potential predictor of educational poverty in adulthood; *ii)* secondary school dropout rates, NEETs rates and the percentage of young people aged 15 to 29 who have not achieved a degree in tertiary education and finally *iii)* the share of low secondary education attainers and/or lower achievers in reading skills among the adult population. We therefore have cross-nationally compared not only the educational levels of the adult population, but also the diffusion of functional illiteracy.

Data sources are respectively: *i)* Eurostat indicators in order to get the international framework of education levels and illustrative/control variables such as public spending in education and national wealth; *ii)* data from the PIAAC survey on adult skills and 3) OECD-PISA 2018 results at tests for 15-year-old student's performances in mathematics and sciences (see Table 1). It is relevant here to specify that we could not use OECD-PISA data on reading competencies because tests for assessments were not valid for all the countries that we included the analyses. We have therefore relied on math and sciences competencies also because these abilities are strongly correlated with those of reading in the countries where assessments are available (Pearson correlation index value: +0.87).

After a preliminary descriptive analysis, data have been summarised via Principal Component Analysis (PCA) which is a statistical technique for missing as little as possible information after reducing the number of interrelated variables within a dataset. Latent variables, also called principal components, are the consequence of the reduction and they represent as many the main features of the phenomenon which is under investigation (Marradi, Di Franco, 2013).

The principal components have been extracted and the projected into a cartesian diagram (see sections 3 and 4). Finally, three regression models were developed (see section 5). Our overall goal was to understand similarities and differences among EU countries, UK and Norway in the extension and the structure of educational poverty. We have included several countries in our analyses: Austria, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Netherlands, Norway, Poland, Slovak Republic, Slovenia, Spain, Sweden, UK.

More specific lines of analysis were *i)* to understand whether and at what extent correlations exist between countries' public investments in education and training, other welfare expenditures and educational poverty as well as *ii)* to find out the link between educational poverty as lack of basic social competencies and as lack of higher education attainments and finally *iii)* to cluster EU countries according to educational poverty among the young and adult population.

TAB. 1. *Data, sources and indicators*

	Data	Indicators	Sources
Performances and educational level of adults	Adult literacy (PIAAC)	PIAAC score in literacy	OECD PIAAC 2012-2016
	Adult numeracy (PIAAC)	PIAAC score in numeracy	OECD PIAAC 2012-2016
	High_educated_30-34 years old	30-34 years old with higher education	Eurostat, Labour force survey 2018
	Low educated adults	25-64 years old with lower secondary education at most	Eurostat, Labour force survey 2018
	Adult literacy low performers	PIAAC score in literacy low performers	OECD PIAAC 2012-2016
	Adult numeracy low performers	PIAAC score in numeracy low performers	OECD PIAAC 2012-2016
Public expenditure	Public expenditure in education	Public expenditure in education and training	Eurostat, 2018
	Public expenditure in recreational culture	Public expenditure in recreation and culture	Eurostat 2018
	Public expenditure in social protection	Public expenditure in social protection	Eurostat 2018
Young people outside the education system	Drop out rates	Early school leavers	Eurostat, Labour force survey 2018
	NEETs	NEETs (15-29 years old)	Eurostat, Labour force survey 2018
Performance of 15-year-olds students	Math	PISA score in math	OECD PISA 2018
	Sciences	PISA score in sciences	
	Math_below_1b	PISA score in math below level 1b	
	Math_below_1a	PISA score in math below level 1a	
	Math level 1	PISA score in math below level 1	
	Sciences below_1b	PISA score in sciences below level 1b	
	Sciences _below_1a	PISA score in sciences below level 1a	
	Sciences level 1	PISA score in sciences below level 1	

3. Correlations

In this paragraph we present and outline the main correlations related to the performance of adults and students in basic competences and educational achievements. We have processed data extracted from the OECD-PISA 2018, OECD-PIAAC 2012-2016 datasets and from the Labour force survey dataset (EUROSTAT, 2018).

A correlation matrix emerging from adults' performances in literacy and numeracy is shown in Table 2. As expected, the relevance of the correlation between average performances in adult literacy-numeracy and the share of adult low performers in literacy-numeracy is proven.

More remarkable is the correlation between the share of country adult population with lower secondary education at most and adult literacy and

numeracy low performers (respectively: ,723 and ,693), meaning that the older the country population, the higher the likelihood that educational poverty is widespread among the adult population.

TAB. 2. *Correlations between adults' performances in literacy-numeracy and educational achievements. EU28, UK and Norway population*

	Adult literacy (PIAAC)	Adult numeracy (PIAAC)	25-64 with lower secondary education at most	30-34 with higher education	Adult low performers literacy	Adult low performers numeracy
Adult literacy (PIAAC)	1	,886**	-,633**	0,351	-,958**	-,866**
Adult numeracy (PIAAC)		1	-,674**	0,086	-,911**	-,985**
25-64 with lower secondary education at most			1	-0,127	,723**	,693**
30-34 with higher education				1	-0,249	-0,069
Adult_low performers literacy					1	,923**
Adult_low performers numeracy						1

* Correlation is significant at the 0.05 level (two-tailed). ** Correlation is significant at the 0.01 level (two-tailed).

A correlation matrix for public expenditure is shown in Table 3. It includes public expenditure in education and training, in recreation and culture and in social protection. We note that there is no significant correlation between the type and the intensity of public expenditure in the selected social sectors.

TAB. 3. *Correlation among types of public expenditures. EU28, UK and Norway population*

	Public expenditure in education and training	Public expenditure in recreation and culture	Public expenditure in social protection
Public expenditure in education and training	1	,478*	0,350
Public expenditure in recreation and culture	,478*	1	-0,072
Public expenditure in social protection	0,350	-0,072	1

* Correlation is significant at the 0.05 level (two-tailed).

We have then investigated possible correlations between the 15-year-old students' test scores in math and sciences (Table 4) and found out that, of course, tautologically being a low performer in sciences (-,969) and in

math (-,994) is strictly associated to low performances in those two basic skills.

However, we have observed a remarkable correlation: low scores in math (,650) and in sciences (,538) are strongly correlated with the NEETs quotas. "This perhaps means that low performers in math and sciences are predicted to become NEETs in the coming of age.

TAB. 4. *Correlation between students' performances in math and science and educational achievements and failures. EU28, UK and Norway population*

	PISA score in math	PISA score in sciences	PISA math low performers	PISA sciences low performers	Early school leavers	NEETs (15-29)
PISA score in math	1	,870**	-,994**	-,842**	-0,160	-,671**
PISA score in sciences		1	-,870**	-,969**	-0,132	-,648**
PISA math low performers			1	,850**	0,133	,650**
PISA sciences low performers				1	0,116	,538*
Early school leavers					1	0,335
NEETs (15-29)						1

* Correlation is significant at the 0.05 level (two-tailed). ** Correlation is significant at the 0.01 level (two-tailed).

Table 5 reports the correlations between public expenditure and adults' and students' educational performance. Observed levels of correlation are in some cases sufficiently robust, especially for the positive association between public expenditure in education and training and students' scores in math and sciences, meaning that across Europe the higher the public expenditure in education and training, the higher the students' scores (,525) in these two basic competencies. A similar correlation is proved between public expenditure in education and training and adults' scores (,493). It eventually confirms that investments in education and training translate in lessening educational poverty especially among the population of teenagers attending schools.

TAB. 5. *Correlations between public spending and adults' educational performances. EU28, UK and Norway population.*

	Adults' scores average literacy & numeracy	Students' scores average math & sciences	Public expenditure in education and training	Public expenditure in recreation and culture	Public expenditure in social protection
Adults' scores average literacy & numeracy	1	,479*	,493*	0,332	-0,055
Students' scores average math & sciences		1	,525*	0,370	-0,103
Public expenditure in			1	,478*	0,350

education and training					
Public expenditure in recreation and culture				1	-0,072
Public expenditure in social protection					1

* Correlation is significant at the 0.05 level (two-tailed).

We have then observed the correlations between adults' and students' performances and educational outcomes (Table 6): the strongest correlated dimensions are adults' scores and being NEETs (-,715); adults' scores (-,703) and poorly educated students (-,488). These two correlations might validate two crucial negative dynamics: firstly, adults' scores in basic skills are negatively influenced by being or having been in a NEET condition, since being out of job training and professional advancement as well as out of learning activities reverberates on educational poverty. Secondly, it seems that the more educational poverty in basic skills of adults is widespread, the more this is reflected in poor results in the learning of basic skills by current students. In conclusion, countries with high rates of low performers in the adult age also display high rates of NEETs and high shares of young individuals with lower educational attainments.

TAB. 6. *Correlation between performance and educational attainments for adults and students). EU28, UK and Norway population.*

	Adults' scores average literacy & numeracy	Students' scores average math & sciences	25-64 with lower secondary education at most	Early school leavers	NEETs 15-29	30-34 with higher education
Adults' scores average literacy & numeracy	1	,479*	-,703**	-0,228	-,715**	0,194
Students' scores average math & sciences		1	-,488*	-0,141	-,651**	0,398
25-64 with lower secondary education at most			1	,620**	,610**	-0,127
Early school leavers				1	0,335	-0,336
NEETs 15-29					1	-0,423
30-34 with higher education						1

* Correlation is significant at the 0.05 level (two-tailed). ** Correlation is significant at the 0.01 level (two-tailed).

4. Data reduction (PCA): creating an index of performances

We now move on to comment results stemming from our condensation of variables by means of Principal Component Analysis (PCA) for both adults' and students' performances. In a first PCA process, we have computed variables concerning the adult population competencies (Tab. 7), while in a second PCA run we have projected data concerning 15 years old students' competencies, according to the PISA assessment (Tab. 8). On this basis, a projection of the countries on the two extracted components is shown in Fig. 1 where correlations between adults' competencies and young learners' competences are displayed by country.

TAB. 7. *PCA – Adults' performances in literacy-numeracy (average) competencies. EU28, UK and Norway population.*

Total variance explained						
Component	Initial auto-values			Cumulative values		
	Total	% Variance	% Cumulative	Total	% Variation	% Cumulative
1	3,765	94,127	94,127	3,765	94,127	94,127
2	0,184	4,605	98,732			
3	0,044	1,093	99,825			
4	0,007	0,175	100,000			

Extraction method: principal component analysis

	Component 1
Adult literacy (PIAAC)	0,956
Adult numeracy (PIAAC)	0,975
Adult literacy low performers	-0,977
Adult numeracy lower performers	-0,973

The first PCA process produces a single component with a variance equal to the 94.1% of the original variance, meaning that this first principal component can equivalently be defined as a direction that maximizes to 94.1% the variance of the projected data. A single latent variable also emerges from the second PCA process applied to student's performances in math and sciences, summarizing 92.4% of the original variance.

TAB. 8. *PCA – Students' performances in math and science (average) competencies. EU28, UK and Norway population.*

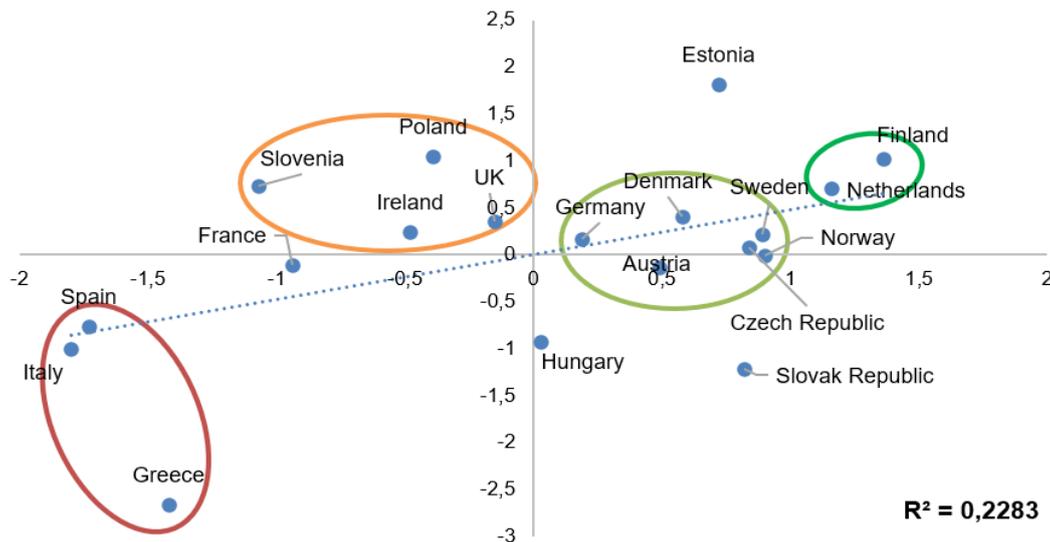
Total variance explained						
Component	Initial auto-values			Cumulative values		
	Total	% Variance	% Cumulative	Total	% Variation	% Cumulative
1	3,698	92,456	92,456	3,698	92,456	92,456
2	0,266	6,651	99,106			
3	0,031	0,765	99,872			
4	0,005	0,128	100,000			

Extraction method: principal component analysis

	Component 1
PISA score in math	0,964
PISA score in sciences	0,964
PISA math low performers	-0,966
PISA sciences low performers	-0,952

Once the two components had been extracted, it has been possible to produce a scatter plot projecting the relationship between the components and then clusters of countries in the geometric space identified by the components. A cluster including Italy, Spain, and Greece clearly emerges on the low left side and one can name it as the 'Mediterranean' cluster. It regroups countries where educational poverty is higher among both adult and student population.

FIG. 1. *Projection of countries on the two components: students' and adults' educational performances. EU18, UK and Norway.*



On the opposite, at the right side in the graph, a 'Continental-Northern' macro-cluster is clearly visible, including Scandinavian countries, the Netherlands, Denmark, Germany, and Austria where educational poverty is less noticeable. But being more detailed, one can distinguish Finland and the Netherlands for their higher educational performances among adult and school-age populations. However, it should be noted that the most relevant result is the relationship between the macro variables, as observed through the interpolation line and the r-square value.

5. Regression

The last step in our analysis relies on three regression models. Once the relationships presented in Tables 2-5 and in Figure 1 are identified, we opted to develop a set of linear regression models projected in Table 9. The dependent variable is the students' performances on standardized tests scores. In the first model (1), we have run the regression only with one independent variable concerning public expenditures; in the second model (2), we selected the so-called contextual variables, i.e., educational attainment by the adult population, the rate of early school leavers and the rate of NEETs, the rate of 30-35rs with tertiary education, average adult scores in literacy and numeracy; in the third model (3) all the

independent variables (expenditures and context), controlled for adult scores have been included. Operatively, we entered the sets of variables assumed to be independent in two steps, while in the third step, we computed all the variables together.

TAB. 9. *Regression: Effect on students' scores in math e sciences*

	Model (1)	Model (2)	Model 3
Public expenditure in education and training	+++		++
Public expenditure in recreation and culture	++		+
Public expenditure in social protection	++		+
25-64 with lower secondary education at most		---	--
Early school leavers		--	-
NEETs (15-29 y. o.)		N.S.	N.S.
30-34 years old with higher education		N.S.	N.S.
Adults score in literacy and numeracy (PIAAC)			++

+++ strong positive effect; ++ positive effect; + positive but negligible effect

--- strong negative effect; -- negative effect; - negative but negligible effect

N.S. statistically not significant

Taking into consideration only the expenditure variables, the investment in education and training exerts the most significant effect. While considering educational variables, a strong negative effect emerges from the share of the adult population with lower secondary education at most and the rate of early school leavers. Finally, looking at the effects of all variables assumed to be independent, the explanatory outcoming from the set of models is confirmed, although the effects tend loosening strength due to the mechanism of multicollinearity among the regressors). Furthermore, the relative weight of effective basic competencies among the adult population is once more proven. The most implication-laden evidence is that in order to reduce the share of low-skilled will-be-adults among the younger generations, an average educated adult population may be not enough because a fully competent and active-learning adult population is needed. A substantial effect is played by public expenditure in education, training and culture. Therefore, educational context variables on which individual schools cannot massively intervene need to be targeted via specific and contextualised actions requiring integrated multi-sector and multi-level policies.

Some preliminary conclusions

The set of evidence resulting from our analyses clearly highlight the way educational attainments and competencies levels are strongly linked. At the same time, as proven in previous studies (Salmieri, Giancola, 2021) the importance of strengthening policies against educational poverty in a multidimensional perspective must be stressed by acting on both students and adult individuals. On one hand, if the fight against the reproduction of educational poverty is condensed only in fostering the share of students reaching higher educational attainments, there is the risk that some share of the adult population will experience the obsolescence of basic competencies and that some shares of will-be-adult students will be affected by transmission of educational poverty via parents and family contexts. On the other hand, if welfare policies insist on tackling educational poverty only or mainly among the adult population via requalification and training schemes for unemployed individuals, a new poorly educated share of the population will grow up (Allmendinger, Leibfried, 2003). In this sense, measures supporting educational dynamism could be more incisive in the long-term if addressed to a double target audience in order to maintain acquired basic competencies all lifelong and to reinforce literacy, numeracy and other basic social competencies among the current poorly educated adults.

The role of welfare public spending in education and training is also clearly indicative to counter fight educational poverty (Agasisti, 2014; Benadusi, Giancola, 2014). If it is true that the pandemic has produced disruptive loss in terms of learning (even if the evidence is still weak, at least in terms of large-scale results), outcomes from our analyses should suggest extra efforts to invest in education and training, in terms of both inclusive and supportive educational strategies and schools', universities and adult learning centres' funding in a life-long learning perspective. A first consideration, then, is that today's students are tomorrow's adults, but since social competencies partially pass through family cultural and social inheritance (Breen et al., 2019), educational policies could not avoid adult educational poverty.

On the other hand, through aggregate human capital theory, as James Coleman (1988) pointed out¹, aggregate human capital facilitates the production of social capital; this latter then positively influences the educational mission perpetuated by single schools: an educated adult population has the effect, even if spurious and mediated, to enhance on the average outcomes of students in a single school. As Esping Andersen has observed schools alone are not able to face the battle against educational inequality (Esping-Andersen, Mestres, 2004). A

¹ Coleman considers social capital in its three forms – obligations and expectations, information channels and social norms – as the constituency to produce human capital. Circularly, high levels of human capital facilitate the new production of social capital.

significant part of these inequalities must be fought 'outside the school' with widespread cultural policies including for children from early pre-primary schools and policies of defamiliarization (Esping-Andersen et al., 2002).

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Educational Exclusion during the COVID-19 pandemic: Social Inequality vis-à- vis University Credentialism

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ABSTRACT: *The educational exclusion during COVID-19.19 pandemic period is still visible in Brazil. Therefore, it was possible to notice that, students from the periphery did not have equal conditions for participation in the pedagogical activities developed by their educational institutions. The vulnerability, the lack of fundamental technological equipment for its access in the virtual teaching space shows that, the students didn't have the adequate participation. To this, is added the lack of electrical network and without any internet provider in their places. The purpose of this research is to understand educational exclusion within the context of the socio-sanitary crisis. In this research the following theorists are taken into consideration: John Rawls, Pierre Bourdieu, Randall Collins, Ivar Berg, Samuel Bowles, Herbert Gintis and François Dubet. The approach is qualitative with the help of interviews.*

KEYWORDS: *Educational exclusion, social inequality and credentialism.*

Introduction

Our research has as the object of study the social inequalities during the period marked by the global health and humanitarian as a crisis. The universities, in the face of social isolation, with a view to minimizing the rate of spread of the corona virus, in order to carry out teaching activity, adopted a teaching modality held in a virtual space. Fact is that, students living in the periphery faced several barriers for their participation in these classes; these limitations were due to the lack of conditions for the acquisition of technical equipment, such as computers, tablets, mobile phones, associated with the inexistence of a service that offers the internet service and electrical network.

Therefore, we proposed to discuss the educational exclusion during the COVID-19. 19 pandemic, due to the fact that it is a problem of the vast majority of students of the university pole that our research seeks to understand the situation of these students. An approach on this theme becomes urgent in all segments of society as it was when the federal senate has presented a bill to reduce the level of educational inequality through the provision of financial resources to the states so that they could be invested in the acquisition of necessary support for students.

In order to proceed with our work we resorted to sociology theorists especially those who discuss social and educational inequalities that comes from lack of opportunities. It begins with a theoretical discussion, then follows to issues inherent to the computer support and the availability of the internet service and finally methodological analysis.

1. Educational socialization in the context of pandemic and social inequality

This research seeks to understand the socializing role of education within a context of a socio-sanitary and humanitarian crisis; credentialism in the face of global humanitarian disaster. As Pierre Bourdieu (1970) had already observed, by the 1950s, the democratization of education made school to be more integrative and more accessible to the self-excluded, that is, the socially marginalized classes, son of artisans, farmers and others. Contrary, to the investment made until the fifties, it has been noticed in recent years and more prominently in the beginning of 2019, an absence of educational policies that deal with problems on its broadest scale, paying attention to the voices of those who experience daily social and educational exclusion, little framework in the labor market, adopting instruments that promote social degradation. In this period of global crisis, social inequality has challenged the democratization of the school, limiting socially excluded categories and those from peripheral areas to the rather scarce conditions for their participation in the teaching and learning process. Such are the children of rubber tappers, domestic workers, farmers and other marginalized groups such as immigrants and displaced persons. Pierre Bourdieu in *Misery of the World*, access to educational institutions, has not provided equal educational opportunities, maintaining the existing differences between the A and B groups of students. He notes that, the children of the poorer social classes are being grouped in area and conditions rather degraded, reserving for the elites the best schools (Bourdieu, 1993). It is for this reason that, the school will remain the main theme within Bourdieu's thought, in most of his works he demonstrates how the school functions as a principle of selection and reproduction of the social order, without any basis in equal opportunities. In his view, schools seem to be promoting or rejecting individuals based on their aspirations or decisions. In another perspective of Bourdieu, school reveals itself as the only possibility to have an alternative to unemployment, thanks to the extra knowledge and skills it allows us to spend in the world of work. Contemporaneously to Bourdieu and to a school oriented to the production of elites, there emerges in the United States the theorists of credentialism, headed by Randall Collins, Samuel Bowles and Herbert Gintis (1975), the last two particularly understand that the school is an instrument at the service of capitalism, capitalist productive apparatus, requesting some capacities so that the population inserts itself within a

system of a labor division in which the functions are divided under strong hierarchical controls.

From a pyramidal vision of occupation, each person is required to have characteristics and skills that the system values positively, so that the differentiated individual skills are responsible for the promotion of (in)equality, as can be seen when Bernard Bernstein (1973) states that the theory of human capital is a fundamental tool used for the maintenance of social exclusion when the existence of a social and cultural preparation to access and for success within an educational system is not considered. According to David Brow, the criticism made to the human capital theory is related to the existence of several programs beyond high schools that correlate particularly with employment placement beyond the years of schooling (Brown, 1995, 30)

Faced with growing social inequality, around the second half of the twentieth century emerged Ivar Berg (1970) is considered as the founder of the credentialist theory in which the central argument was that industrial economies needed highly skilled workers. However, it was with the very prominent work of Randall Collins published in 1979 under the title, «credentialist society» which as a trademark inaugurated the credentialist theory. Continuing, Collins (1979) establishes a relationship between formal educational credentialism and the skills needed in the employment market. The theorist argues that, school fulfils the demand of industrial society, that is, what is learnt in school has to do with the conventional patterns of sociability than instrumental and cognitive skills (Collins, 1979, 19).

Randall Collins maintains that «it depends increasingly on having reached a certain level and having acquired the formal credential which enables one to enter into the successive level» (1979, 93). Substantially, according to Collins (1979) in his credentialist theory, employers rely on credentials for the allocation of more able workers to better job positions, the more able workers are placed in more lucrative positions, as he concludes, not necessarily because they were skilled or productive, but because they were more educated.

For Randall Collins educational credentials became a bargaining chip for employment and that students were expected to attain a sufficient amount of this artificial asset for positions of respectability (Collins, 1979, 183). He further argued that, education would enable people to fill the most desirable positions, contemporaneously; the occupation of elites which would be able to establish necessary requirements for admission into specific professional programs in order to remain in dominant positions.

For their part Samuel Bowles and Herbert Gintis (1975, 75) say that 'while we recognize that educational credentials play an important role, we are unwilling to reduce the economically relevant activities of schooling to those of selecting and labeling'. The authors argue that the expression that those who accumulate more curriculum have a greater chance of economic success which is close to the real possibility that

society subsequently offers to graduates of wealthier classes. The more radical ones demonstrate that, the apparent correlation between economic success and education are strongly influenced by kinship ties, sex, race, socioeconomic conditions of origin, which carries doubts about the general application of such correlation (Bowles, Gintis, 1976).

Thus, education is an instrument for the resolution of inequality between the various social structures, income inequality and boosts increased productivity. The credentialism advocated by its theorists holds that, education is not in itself determinant for wages, but the diploma is what allows access to well paid jobs. While for the theory of human capital, education does not imply an improvement in productivity, nor does it promote income distribution, but rather, it is a viable instrument to perpetuate social inequalities and the prestige of the elite class.

Bourdieu, in *America as a Utopia in reverse*, states that the degradation of living conditions in the remote areas has reached the point where the public sector has difficulties in providing basic essential services such as public security, decent housing, health, education and justice. This marginalised class is transformed into an instrument of surveillance and police, continuing in the very degraded situations in which they find themselves subjected to. The author concludes that,

Far from helping to mitigate the inequalities that weigh upon them, they tend to accentuate the isolation and stigmatisation of their users, to the point of operating a real de facto separation of the ghetto from the rest of society. From an instrument for fighting poverty, the public force is transformed into a war machine against the poor. (Bourdieu, 1997, 168)

Bourdieu, in his thinking reveals himself in agreement with the Theory of Human Capital, while educational institutions are promoters of social inequalities and unemployment opportunities, stands out as a tool for the maintenance of social exclusions. Pierre Bourdieu (1997, 524) positions himself in this way, «while the demand for access to longer studies was already large and generalised, the functioning of the school system continued to produce the same social inequalities of school performance sanctioned by the same selective guidelines».

While schooling and training are usually presented as national priorities, the contradictions between the official vision of a school system that ensures 'success for all' (or 'equal opportunities') and its actual functioning are all the more easily perpetuated because they remain largely unknown (1997, 529).

The mismatch between the national priority, i.e. education and training in relation to its scope which is the establishment of equal opportunities loses its purpose with the emergence of unfair competition, which reduces the opportunity of access to educational institutions to the marginalized group. In relation to this centralisation, Wacquant notes that, the polarisation regarding the extension of schooling at the expense of teaching conditions, and the creation of imprudent competition between schools facing very unequal difficulties, seems to have contributed greatly to concentrating and aggravating problems in places

to which the most disadvantaged are increasingly relegated. The absence of measures to counterbalance the effects of these demagogic and uncontrolled policies has plunged the education system into a deep crisis of which the demoralisation of teachers is both an effect and a component (Bourdieu, 1997, 529).

In search of an understanding of a fair school, the above idea is opposed by François Dubet's understanding of the idea of a school of opportunities and committed to helping the weakest. His model of school is founded in the creation of equality and of opportunity, all changes in public policy that are aimed at creating equality and not only, but also favouring the «lowest performing students» (Dubet, 2008, 73).

The idea presented by Dubet brings us back to the Theory of Equity proposed by John Rawls (2002), who advocates that there is no injustice when the gain of another implies the benefit of another, stating in these terms: «there is no injustice in the greater benefits achieved by a few provided that the situation of the less fortunate is thereby improved» (Rawls, 2002, 16). His proposal, «the idea of justice as equity», not withstanding the difference in income, proposes a policy of equality in diversity.

François Dubet, taking up John Rawls's idea, develops an idea of a just school based on three pillars: equal opportunities, common culture and the use of training. In his thesis, he does not rule out the existence of inequalities in school, but they must not harm the weakest, they must not become unjust, since, according to his understanding, inequalities are part of society and of the school, since there are differences between students attending the same school. Dubet's idea is analogous to the educational policies developed by the Brazilian government, which invested in replacing the idea of equality with the idea of equity, as the author notes:

equal opportunities are the only way to produce fair inequalities when individuals are considered to be fundamentally equal and only merit can justify differences in remuneration, prestige, power [...] that influence differences in school performance (Dubet, 2008, 11)

The above mentioned text is in deep agreement with the document produced by the World Bank entitled «Equity increases the capacity to reduce poverty» (2006), when it considers that the previously adopted policy of equal opportunities was a hindrance to the development of talented students, however, with unfavourable socioeconomic conditions. School is an instrument used for the individual's training to be able to fit into society and manage his or her life. According to François Dubet (2008, 95)

In addition to knowledge, skills and their social utility, school produces a particular educational good which is the formation of individuals as subjects capable of mastering their lives, of building their subjective capacities of self-confidence and trust in others. This learning results less from the knowledge acquired than from the mode of transmission and

the educational style chosen by the school. Not only must a fair school be useful for the social integration of students, but it must also form the subjects of a democratic society with solidarity. It is in this sense that individual equality of opportunity must be understood.

The proposal of François Dubet is in dissonance with the thought of the Hungarian Istvan Meszáros (2007), who, analyzing the mode of production, notes how the educational policy reform keeps in force the established order and the principles that generated it. The thesis of Meszáros consists in operating a rupture with the capitalist logic so that we can think of completely different educational policies, contrary to François Dubet, in turn, proposes a reform that denies the principle of equality and, defending the equality of opportunities, defends the principle of respect for difference as a principle of equality.

2. Technological tools, remote areas and socio-educational conditions

The use of technological tools is not so recent, but its demand has been greater since the outbreak of the corona virus early 2020 both for carrying out work in home office, for conferences and for conducting classes in public and private institutions. In the beginning, the use of these instruments aimed at transmission in a quick, easier way, with the introduction of these technological means in the educational field demanded new teaching methodologies. It is not intended to question its relevance as a form of communication applied to education, but to perceive it as a modality that aggregates and simultaneously excludes a part of the population deprived of conditions to have access to knowledge through this equipment.

It is necessary to point out that, by means of this digital equipment, it is possible to make education and knowledge to have a greater reach and reach places where it was not thought it would reach. It is clear that education in this modality is contemporary to technological advances, thus being able to promote a very agile education. In this way, with the use of information technology it is possible to create teaching and learning strategies, elaborate lesson plans to provide a better learning environment, in addition to a teaching platform, in the period of the pandemic was an alternative to pursue with teaching.

With the advent of technology and its application in teaching-learning facilitated and provided the implementation of Learning Management System (LMS), in «Brazil within a space known as Virtual Learning Environment (VLE)» (Maciel, 2012).

The Virtual Learning Environment establishes connections between various resources such as virtual libraries personalized exercises and the availability of virtual books in the time each one needs. The technological means and education in pandemic times have become inseparable, but the use in the first educational system requires a good preparation of the teacher inside and outside the classroom. Although the advantage of this

tool is recognised, there are difficulties, the virtual environment is a barrier to learning, and it is up to the teacher to select and include in the subject the important content to be taught. Increasingly connected in the virtual world becomes urgent the rethinking of teaching methodology appropriate to technology. For this reason Moran (2009, 32) stated that:

Each teacher can find his or her most appropriate way of integrating the various technologies and methodological procedures. But it is also important to expand and learn to master the forms of interpersonal/group communication and those of audiovisual/telematic communication.

The technology, despite being important for the transmission and absorption of content, does not exempt the teacher, the responsibility to customize this tool in order to improve the results regarding the assimilation of content by their students. In this way, this idea is based on Levy (1993, p, 25) when he considers that:

Communication technologies do not replace the teacher, but modify some of his or her functions. The task of passing on information can be left to databases, books, videos, programs on CD. The teacher now becomes the stimulator of the student's curiosity for wanting to know, for researching, for seeking the most relevant information. In a second step, the teacher coordinates the process of presentation of the results by the students. Then, he questions some of the data presented, contextualizes the results, adapts them to the students' reality, and questions the data presented. Transforms information into knowledge and knowledge into knowing, into life, into wisdom – knowledge with ethics.

In this way, the same technological tool as a space for interaction and transmission of knowledge, overloading the students with so much content, they may lose the ability to assimilate all the information obtained at the same time. For this reason, the presence of the teacher in the virtual classroom becomes increasingly important as a guide for the learner. Respecting the learning of each student, the teacher offers a class where the student has the opportunity to actively participate:

These new technologies have had a great impact on Education, creating new ways of learning, dissemination of knowledge and especially new relationships between teacher and student. Today there is great concern about school improvement, expressed, above all, in the learning results of their students. Being informed is one of the key factors in this context. Therefore, schools cannot remain oblivious to the process of technological development or at the risk of getting lost in the middle of this whole process of educational restructuring (Ferreira, 2014, 15).

In this way, it should have a thorough knowledge of technological tools to arouse interest in teaching your student to use them as a differential in their learning methodologies and as a facilitator in understanding the content, Levy (1993, p, 12), so understands:

Teachers appropriate new technologies as their own resource, like books and pencils, and not as an externally imposed «black box»; Continuing education is an essential component of teacher training. It

would be useful to have support centres where teachers could test programs and receive guidance on their use; local and inter-regional cooperation, stimulated through periodic meetings and journals for the exchange of experience and programs, stimulated by the government or other institutions; emphasize pedagogical attitudes of innovation and interaction in interdisciplinary teams; integrated vision of science and technology that seeks to understand scientific processes and the change in educational paradigms.

Technological tools are already part of the daily lives of students and teachers, however, this does not mean that these support tools are being used properly, the poor preparation of teachers in the management of such equipment makes its use increasingly overlapping and unproductive especially if related to more developed countries.

In this period, technological advancement has become very important especially in quite peripheral areas with little or no internet signal, radio, television where are most needed and are important since it enables the transmission of lessons to students. Regarding the technological transformations, Cascarelli (1998, 77) brings notes quite essential when considering that,

The speed of technological change is such that it requires education to change rapidly to keep up. The emergence of radio, television, microcomputers and interactive CD-ROMS have started to influence the way we learn and continue to learn. With a source of electricity and a telephone connection, even the most remote areas can have access to the world's great information centres.

In this period of global crisis, technological advances have allowed and forced a continuous teacher training so that he/she can adapt to its use, seeking more and more the improvement of didactics and teaching techniques in order to pass on the content in a clearer way. Therefore, it is necessary that teachers who use radio and television become more audible in front of their interlocutor and, through the support of various virtual platforms, pay attention to the fact that students are following along in a divided way.

4. Methodological analysis

The interviews were conducted with the participatory modality, a result of answering questions sent by google forms to different students. In Bourdieu's opinion, the interviewer is neither a neutral question machine nor a passive receiver; he encourages the verbal expression of the interviewees' representations of reality and patterns of interpretation in a kind of self-analysis.

Bourdieu's interview method as «social psychoanalysis», «life stories» favour the «deep understanding» that the quantitative method can never allow. It is for this reason that the analysis of interviews conducted is

pertinent. First of all, in very many cases the interviewer knows the interviewee directly or through an intermediary.

We conducted interviews with a group of students of the Institute of Exact and Technological Sciences (ICET) of the Federal University of Amazonas (UFAM), talking about their school experiences as they are living until today. These are students who come from very unequal social and educational situations. Most of them are children of rubber tappers who find themselves studying in a public university attended by the upper middle class with very visible differences in times of the pandemic, with academic mishaps. If in the past it was already possible to see countless humiliations to which they were subjected to as a result of academic difficulties, initially the university and then their integration into the world of employment and so on. Today, this inequality is much more visible than before, the inexistence of technological supports to participate in classes that take place telematically.

The students interviewed perceive that they are stagnant in a university that does not offer beforehand alternatives to degrading situations with sufficiently applaudable evidence, absence of public policies that serve marginalized students.

In relation to this, there is a well-known idea of Bourdieu's that conceives domination as accepted and considered natural because it is inscribed in the representation of social reality that social actors form (*habitus*). According to Raymond Boudon and François Bourricaud (1991) a representation occurs through socialization of the social order carried out by the school and the family.

Faced with the crisis that has been going on since the beginning of 2020 and the socio-economic inequalities in which Brazil is immersed, the Federal Senate had approved an amount of 3.5 billion reais to be transferred to the states and the Federal District so that, through this, the managers of education adopt measures that included the acquisition of tablets for teachers and students and mobile internet plans, with the aim of allowing students and teachers to monitor remotely the educational activities. Notwithstanding the urgency to support the most needy, the President of the Brazilian Republic by presidential order and under the terms of § 1 of Article 66 of the Federal Constitution.

If the President of the Republic considers the bill, in whole or in part, to be unconstitutional or contrary to the public interest, he shall veto it, in whole or in part, within fifteen working days from the date on which it is received, and shall communicate the reasons for the veto to the President of the Federal Senate within forty-eight hours.

For this reason, he decided to veto, as he considered contrary to public interests and un constitutional Bill No. 3477 of 2020, which «Provides for the guarantee of access to the internet, for educational purposes, to students and teachers of public basic education».

5. Results found

The activity developed was with 82 students of the Institute of Exact Sciences and Technology (ICET) of the Federal University of Amazonas (UFAM), I got the knowledge of the activities and difficulties that students faced for access to classes during the COVID-19.19 pandemic initially through an informal conversation with two teachers of the same institution, to develop this research I formulated a questionnaire through google form precisely to understand the barriers they had in the learning process, all were unanimous in reporting the difficulties they go through during this period, the lack of adequate conditions for participation in all academic activities. In the sequence, we will present some passages transcribed mishaps around the question to indicate the problems that affected the participation and performance of students. The transcription of these notes concerns the feelings of the two professors that preferred to use fictitious names and then analyze the answers of the students regarding the problems of teaching in that period that we believe are complementary and illuminating to the perception of the professors.

Teaching from a virtual space as an alternative adopted after the pandemic crisis that caused a socio-sanitary and humanitarian crisis to replace classroom lessons with this teaching model in order to prevent the spread of the virus and at the same time preserve the health of students, was undoubtedly a mechanism that despite the complications it faces, it carries with it some problems that I will mention below. Our university campus, although located in a municipality with basic conditions, assists students from various localities, riverside areas lacking basic services, such as electricity, internet service provision, which are essential for the participation of students in virtual classes. (Peterson)

During the class we are aware of all the barriers that students face to participate in class in the face of the precarious conditions that our education is immersed. On the one hand, we have students without Chromebooks, computers or even mobile phones with applications that allow them to access the class content, and on the other, we have students who, although they have computers, the inconsistency of the internet ends up causing the class to stop waiting for the connection to be re-established. It should be noted that the weak internet signal also affects teachers who live in the municipality where there is little connectivity. These difficulties bring with them some constraints, those who frequently lose the internet signal or without resources to purchase mobile data are left with poor academic performance. (Wellington)

It is important to emphasize that teachers are facing a very troubled scenario in developing their activities in compliance with the recommendations of the educational authorities and the national education policy that overlapped the feelings of some teachers who experience in loco the difficulties faced by students of the periphery. In

this recognizes that there are some students who from 2020 to 2021 passed with a void by the weak compliance with the curriculum plan and weaknesses in the transmission of its contents.

Although it is relevant, I will not go through all the issues raised by teachers, even if they are propitious of the very dramatic scenario that education lives at this time and low-income families, their students live in their daily lives the drama of being from poor families and being from the periphery. We ordered our questionnaire as follows:

1. According to the current situation in the country, what are the problems affecting student participation and performance?
2. What are the most recurrent problems during the remote teaching modality?
3. What measures are implemented taking into account the nature of the classes and the cost this entails?
4. Within the operational difficulties of virtual teaching, would you propose some measures for overcoming them?
5. Is there an educational policy in your municipality that creates conditions for students in difficult situations (with technical support regarding equipment such as internet, computer and energy)?
6. What are the practices adopted to mitigate the education crisis in COVID-19.19 period? What are the essential aspects to be taken into account in the reformulation of educational policies tending more and more to a social responsibility in time of the pandemic?
7. What does an inequality of educational opportunities in the time of socio-sanitary crisis mean for today and for the future? What disadvantages does it represent?
8. What would you do to make education increasingly inclusive in time of the pandemic?
9. What has been the attitude of government bodies so that all students can participate on equal terms in the teaching learning process?

We interviewed a total of 82 students from which we obtained the corresponding number of answers from the interviewees and the answers were classified by gender: 33 were from men and 49 from women. The following table identifies the number of interviewees grouped according to gender and area of training. The largest number of respondents were women:

TAB. 1. Sample of the research, divided by sex

Class	Men	Women	Total
Agronomy	5	5	10
Sanitary Engineering	4	8	12
Production Engineering	4	7	11
Pharmacy	6	9	15
Information	4	5	9

Systems			
Industrial Chemistry	7	8	15
Software Engineering	3	7	10
Total of participants	33	49	82
Author, 2021			

The methodological procedure adopted was a qualitative analysis. As the interview was based on open-ended questions, it was necessary to work with categories corresponding to the meaning of the answers given. To this end, we adopted the category of analysis proposed by Szymanski, Almeida and Prandini (2011) used in the methodological analysis procedure for understanding the interviews. These authors had as assumptions Giorgi (1985), according to which the researcher should have the ability to synthesize the conceptions and meanings contained in the interviewees' accounts, proposing the explicitness of the meanings and successively the analysis of the categories.

TAB. 2. Explanation of meanings and categories

<i>How do you see your conditions in a few years time</i>	<i>Explanation</i>	
	Meanings	Categories
«If conditions like this prevail, we will find it difficult to continue with our training, opportunities will continue to close in for me»	The student studies to improve his living conditions. At the same time, there is a feeling of uncertainty about the inequality of education	Studying and finding the best job
«Living in riverside areas, entering higher education is aimed at preparing me so that I can work in better conditions and have a dignified life»	The student has ambitions to live outside the riverside areas and live with dignity	Living outside riverside areas and having a dignified life
«I prospect that I will have a stable life and be able to raise my family without dependency»	The student wishes to have independence, a stable family situation	Study Employment Marriage
«Tomorrow, I imagine being a very prepared professional, secure employment and improving the conditions of my country and raising a family.»	As a professionally prepared student, improved parental conditions and family formation	Trained Improved standard of living Married

The interviews and answers we had from the interviewees allowed us to establish a set of meanings and a certain number of categories, the answers were related to the difficulties faced by lack of conditions to participate in virtual classes which creates an uncertainty for their future

and the others are related to their professional preparation, employability conditions, improvement of living standards and finally the constitution of a family. What was perceived, the better living conditions and the constitution of the family would depend on their better training.

Conclusion

The concern of our research was to understand educational exclusion in the period dominated by the pandemic and its relationship with university credentialism. Education was approached as an instrument for the reduction of social and educational inequalities, but it is necessary to adopt educational policies in favour of the class that is on the margins of opportunities, particularly the peasant class with scarce resources so that their children can have an education with acceptable results for their social insertion and in the job market.

The families located in the villages without electricity, without mobile phones, some without computers made it difficult for the students to participate in pedagogical activities through the virtual environment. The veto of the bill of the Federal Senate by the President of the Republic made us conclude that, the children, students coming from poor families without being able to study in equal conditions with those who have the best conditions, these students will not be able and predisposed to serve the class that yesterday and today is prepared as the elite of the future and that will be in conditions to make decisions about those who today are without means.

The veto becomes in this sense a strategic instrument for the selection of human capital for certain labour sectors, so that those who have the necessary qualifications will occupy the posts according to their competences in the industrial companies and the posts that require low qualifications will be reserved for those who are today without the necessary preparation. For this reason, education is a strong weapon of the political power which is, at the same time, the owner of the means of production used to maintain the existing social order. Therefore, the school system as a mechanism of reproduction of the capitalist system in which in itself, there is a relationship between economic success with the acquisition of certain skills that the school munitions certain individuals.

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**Young People of Foreign Origin
and Educational Failures:
Key-roles and Actions
to Contain Dropout's Risk
and Promote Inclusion**

Young Foreigners and Early School Leavers: Proposals for Intervention Through Choral Singing and Reading Aloud

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ABSTRACT: *Early school leaving is one of the biggest problems in the European education system (Batini et al., 2018). According to recent estimates, a large proportion of early school leavers is represented by immigrant students (European Commission report, 2018). Since individuals who interrupt their education early are more likely to incur in significant economic and social disadvantages in adulthood, it is crucial to have adequate tools to curb this phenomenon. In order to plan effective intervention proposals it is important to understand the variety of individual, family, socio-economic and school factors that contribute to the outcome of dropping out of education (Batini et al., 2017). The aim of this paper is to propose intervention strategies to prevent the drop-out of young people of foreign origin. Specifically, we will focus on the potential of choral singing and reading aloud, illustrating their common advantages and differences. The literature shows us how choral singing can foster well being, social affiliation and inclusion (Pearce et al., 2015) and the transfer of acquired skills also to domains outside the strictly musical one (Moreno, Bidelman, 2013). Teachers reading aloud can have positive effects on pupils in the cognitive, emotional and social spheres, fostering the development of language skills and stimulating involvement in a common activity (Batini et al., 2018). While singing can offer the possibility to go beyond language barriers thanks to the universality of the musical language (Donnay et al., 2014), reading aloud can give the opportunity to act in a targeted way also on more purely linguistic aspects that can enhance the migrants' skills in this domain (Brabham and Lynch-Brown, 2002). In both of these types of intervention, the fundamental purpose is to promote integration and inclusion, reducing education gap and preventing school drop-out in young migrants.*

KEYWORDS: *school dropout, foreign students, voice, reading aloud, choral singing*

Introduction

As it has been widely described also before in research and reports, early school leaving is one of the biggest problems in the European education system. EUROSTAT data for 2019 show that around ten percent (10.2%) of 18-24 year old students in the European Union dropped out of

education after completing at most a lower secondary education. In particular, it was found that around eleven percent (11.9%) of young men and around eight percent 8.4% of young women in the European Union were early leavers from education and training (EUROSTAT, 2021). In Italy, in the fifteen years between 1990 and 2015, almost 3 million young people left school early, 31.9% of those enrolled in a public upper secondary school without attaining a diploma (Benvenuto, 2016). Thanks to access to European funds, the Italian Ministry of Education, University and Research has established five benchmarks to monitor the progress of national policies over the period 2010 to 2020: *adult participation in lifelong learning; underachievement in basic skills; higher education graduates; early leavers from education and training; early childhood education* (MIUR, 2014).

According to recent estimates, a large proportion of early school leavers is represented by immigrant students (European Commission, 2018), a slice of the population that faces daily difficulties in trying to bridge language and integration gaps, a factor that is reflected in the education and academic performance of young migrant students. In a context marked by the economic crisis and unemployment, inclusion and integration of immigrants remains one of the main challenges in Organisation for Economic Co-Operation and Development countries, mainly in Europe. The phenomenon of early school leaving is multifaceted and takes different forms: from simple failure to repetition, from intermittence to dropout (Benvenuto, 2016). It's widely recognized that the school and the education system can make the difference in promoting inclusion, preventing drop-out of young immigrants and responding to an increasingly diverse society, ethnically and culturally. Since the 1980s, in preparing interventions aimed at combating early school leaving, the relational aspect, the relationship of students with teachers and the type of communication and language used by the latter has begun to acquire more and more importance, so recent interventions aim to improve above all the quality of teacher-student interactions (Batini, 2016). In Italy, for example, the educational systems have responded to the presence of foreign students with the proposal of an intercultural education with the objective of cutting across all the disciplines of the school and modifying perceptions and beliefs about the «Other» (Balloni et al., 2018). However, the ways in which the school has been dealing with the growing cultural diversity have been criticized. Recent research has shown the ambivalence of the school presenting it as simultaneously inclusive and discriminatory and suggesting that the school still needs to adjust its action to ensure that it is, in fact, a device that promotes greater social justice.

In order to plan effective intervention proposals it is important to understand the variety of individual, family, socio-economic and school factors that contribute to the outcome of dropping out of education (Batini et al., 2017) and, since individuals who interrupt their education early are more likely to incur in significant economic and social

disadvantages in adulthood, it is crucial to have adequate tools to curb this phenomenon. The aim of this paper is to propose intervention strategies to prevent the drop-out of young people of foreign origin specifically focusing on the potential of listening to a teacher reading aloud and choral singing as democratic tools to promote inclusion. In this work we will illustrate the common advantages and differences of these two practices in preventing school drop-out of young migrants.

1. Teachers reading aloud to foreign pupils: a democratic practice

Obviously, when we talk about foreign students it is important to underline language and integration difficulties that can make the school experience hard for these individuals. These two factors challenge educational systems in ensuring equity in the learning path for all students, but reading aloud can become a valuable tool for teachers to be able to bridge this gap. In fact, there is significant evidence in the literature that shows how listening a teacher reading aloud can produce benefits not only on language production and comprehension, but also on cognitive domains such as attention (Dragan, 2001; Lawson, 2012), memory (Forrin, MacLeod, 2017; Nouchi et al., 2012), and problem solving (Murray, Egan, 2014), and improve emotional and interpersonal skills. Research showed that reading aloud can increase vocabulary skills and word recognition (Baker et al., 2013; Goldman et al., 2013; Tijms et al., 2018) and improve expressive language and text comprehension (Neuman et al., 2016;). Daily reading aloud sessions can develop skills such as narrative thinking and concentration in students listening, stimulating and allowing them to exercise their creativity (Batini et al., 2018).

In planning a school intervention based on reading aloud, it is interesting to focus on the benefits that this practice can bring to the emotional climate and cohesion of the class: literature shows that reading aloud can enhance student's interpersonal skills, and social-emotional conversations stimulated by shared read alouds increase preschool and school-aged children's implementation of prosocial behaviors (Aram et al., 2017; Curtis et al., 2020; Drummond et al., 2014; Schapira, Aram, 2019). Talking about migrant students, it is important to note how shared reading aloud can improve attitudes toward stigmatized groups (Vezzali et al., 2015), desirable effect on fostering successful integration into the school environment. In particular, the experience of reading aloud allows to share insights on key issues in a protected environment, in which the student can exercise a sort of «simulation» of reality, and then return to it enriched with new answers, and it is precisely in this exchange that respect for the other, understood as a bearer of values to be protected as a common heritage, is created. (Balloni et al., 2018).

Reading aloud can also enhance emotional competences and empathy, fundamental to the development of the individual (Curtis et al.,

2020; Lysaker, Tonge, 2013), so it enables children, from an early age, to identify and recognize their own emotions and those of others (Batini et al., 2018). In light of this evidence, an intervention based on reading aloud may be a good strategy to ensure equity and opportunities for all to participate and learn effectively in schools, using voice as a true democratic tool to promote inclusion.

1.1. How to do it: «Leggere: Forte!» («Reading: So Cool!») project

«Leggere: Forte!» (in english: «Reading: So Cool!») is an action research project of the Region of Tuscany (Italy) realized in collaboration with the University of Perugia, the Ministry of Education through the USR for Tuscany, INDIRE and Cepell. It is an educational policy with the purpose to make reading aloud a structural practice of the entire Tuscan education system and it is a multi year project which has reached its second year of activity and which involves children and teens ranging from 0 to 19 years old, using reading aloud as a democratic tool to promote inclusion and educational improvement. Teachers are the key players in this practice. Teachers reading aloud produced, during the first year of the project, surprising beneficial effects on their pupils. In the first year, «Leggere: Forte!» project focused particularly on the 0-6 age group.

According to the preliminary findings for the 0-3 group we can talk about a true «language explosion», identified through a refined instrument such as the Bayley scales for infant and toddler development, and confirmed through the first language test. This linguistic enhancement makes clear that, in an age group such as 0-3, in which, however, the language can only progress, the systematic and intensive exposure to reading aloud facilitates the acquisition of a series of elements related to language that are fundamental for the subsequent stages of development and decisive for the development of emergent literacy skills. (Batini, 2021a). In summary, the improvements observed in children have shown a positive trend with regard to the following aspects:

1. socio-emotional scale
2. autonomy
3. self-control
4. social scale

Thus, these findings are in line with the numerous evidences in the literature that support the effects of reading aloud in enhancing cognitive domains such as language and affective domains in various age groups (Batini et al, 2018; Batini, 2021b). These aspects are central to promoting the inclusion of young migrants.

2. Choral singing: a form of enriched environment and an inclusive practice

Let's see now which benefits can bring another important kind of intervention which concerns voice and, in this case, can bypass linguistic

barriers: choral singing. Due to their characteristic it is possible to consider music and singing as forms of environmental enrichment, a concept and experimental protocol introduced by Rosenzweig's group to study the influence of the environment on the brain and behaviour. The classic definition of «enriched environment» is «a combination of complex inanimate and social stimulation» (Rosenzweig et al., 1978). Studies that concern «enriched environment» and neuroplasticity show that the morphology, chemistry and physiology of the brain can be significantly altered by changing the quality and intensity of environmental stimulation (Sale et al., 2009). In fact, as a form of enriched environment, we know that music facilitates neural plasticity and learning processes.

An interesting study by Chikahisa et al. (2006) showed that exposure to music in animal models of mice in the perinatal period improves performance on learning tasks and alters signalling pathways involving Brain Derived Neurotrophic Factor, a neurotrophin strongly implicated in structural and functional plasticity both during development and in adults. Also it's known from recent studies that musical training and choral singing have robust skill transfer effects (Moreno, Bidelman, 2014). A distinction is often made between near- and far-transfer of skills. Near transfer occurs between highly similar contexts and domains: for example we know that musical training has positive effects on auditory perception and auditory working memory (Bidelman, 2011; Moreno, Bidelman, 2014). Whereas far-transfer occurs between domains that have less in common (Barnett, Ceci, 2002; Schellenberg, 2004): for example it's known that music-related plasticity ranges from low-level sensory processing specific to the auditory domain, to high-level processes supporting general cognitive functions including language and executive processes.

Finally, we know that choral singing can promote social affiliation and inclusion faster than other activities, a phenomenon called «Ice breaker effect» (Pearce et al., 2015). This aspect is linked to oxytocin, a neuropeptide that promotes prosocial behaviour, linked to social perception and social memory. It has prominent effects on the amygdala, the fundamental centre of the social brain. In fact, in the context of music, it has been observed that singing in groups is associated with increased levels of oxytocin (Keeler et al., 2015). In their study Keeler et al., (2015) also show that singing in groups promotes a state known as 'social flow' experience, a psychological dimension of perceived interaction with others described as a high-quality and very rewarding experience. This evidence highlights how choral singing can be an effective intervention to promote the inclusion of young migrants and reduce the education gap.

2.1. How to do it: «Sing me in» project

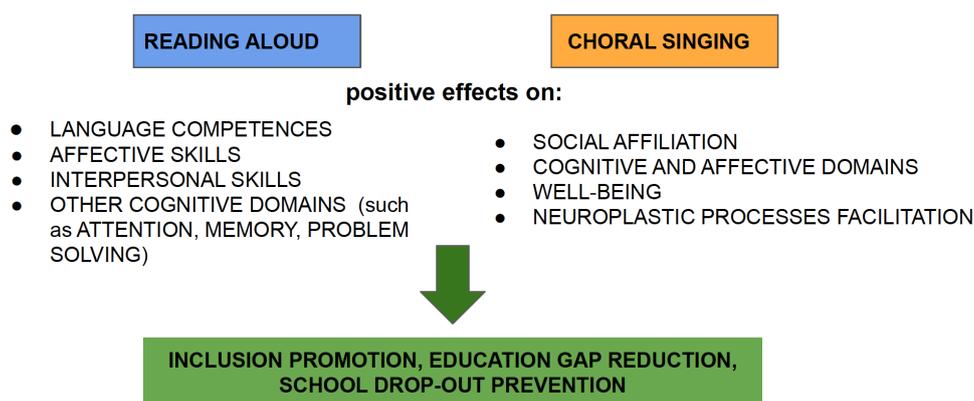
«Sing me in!» is a project coordinated by the European Choral Association – Europa Cantat and funded with support from the European

Commission. It aims at providing children's and youth choir leaders and music teachers, or anybody interested, with pedagogical approaches and tools that allow collective singing activities to play a positive role in the integration process of young people at risk of exclusion. Eleven musical organisations from ten countries, involved in youth work, joined forces and used their extensive networks to collect good practices in their respective professional and geographical areas. Based on that rich input from the field, and with the support of experts and practitioners, they decided to collectively develop innovative pedagogical contents. The main outputs of the project are three handbooks and a dedicated repertoire guide, targeting children's and youth choir conductors and teachers. The handbooks are available in 11 languages to allow for efficient dissemination and to guarantee a maximum impact across the community of youth workers in Europe and beyond. To ensure efficient dissemination, they also organised a cycle of international and national multiplier events that are part of training events and conferences gathering target groups across Europe. These events were an opportunity to reach out to active practitioners who can in turn use and spread the methods further. Thus, this project is an example of what could be done to promote the inclusion of young migrants.

3. Reading aloud and choral singing: democratic tools to promote inclusion

We have focused on the potential of choral singing and reading aloud, illustrating their common advantages and differences. The literature shows us how choral singing can foster well being, social affiliation and inclusion and the transfer of acquired skills also to domains outside the strictly musical one (Chikahisa et al., 2006; Keeler et al., 2015; Pearce et al., 2015; Schellenberg, 2004). Teachers reading aloud can have positive effects on pupils in the cognitive, emotional and social spheres, fostering the development of language skills and stimulating involvement in a common activity (Baker et al., 2013; Goldman et al., 2013; Neuman et al., 2016; Tijms et al., 2018). In sum, while singing can offer the possibility to go beyond language barriers thanks to the universality of the musical language, reading aloud can give the opportunity to act in a targeted way also on more purely linguistic aspects that can enhance the migrants' skills in this domain. The benefits of practicing choral singing and the experience of listening to read alouds can become valuable democratic tools for breaking down many barriers and promoting the inclusion of foreign students, a key goal for education today.

FIG. 1. *Effects of reading aloud and choral singing on language, cognitive, interpersonal and emotional domains.*



Conclusion and future directions

With this paper we wanted to discuss the potential of two different intervention strategies to prevent the drop-out of young people of foreign origin: reading aloud and choral singing. We observed the effects of choral singing on wellbeing, learning processes, cognitive and affective domains, neuroplasticity, social affiliation and inclusion (Moreno, Bidelman, 2013; Pearce et al., 2015; Sale et al., 2009). We have also examined the evidence about reading aloud effects on linguistic, cognitive, emotional and social domains (Batini et al., 2018; Brabham and Lynch-Brown, 2002). In both of these types of intervention, the fundamental purpose is to promote integration and inclusion, reducing education gap and preventing school drop-out in young migrants. To conclude we want to stress that, despite this encouraging evidence about potential effectiveness of reading aloud and choral singing in promoting inclusion, these practices are still too little present in the school system. It is therefore necessary to implement more action research projects to assess and prevent young migrants' early school leaving through choral singing and reading aloud, and collecting quantitative data supporting effectiveness of these interventions on young migrants' early school leaving. Obviously, in order to make these practices as effective as possible, it is necessary to invest in the training of school personnel about these types of activities. Such goals would help make inclusion and equity in education a reality for all.

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Between Social Classes and Migrant Background. School Integration and Attainment of Immigrants' Offspring in Upper Secondary Education in Italy (2015-2019)

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ABSTRACT: *Unlike the other Western nations, Italy has faced just recently immigration waves. Although the first substantial inflows have started thirty years ago, it is only in the last ten years that the presence of children with a migratory background has become sizeable in the Italian education system, as a result of both family reunification and entry into school of children born in Italy from parents of foreign origin or from mixed couples. For this reason, studying the participation of foreign children in upper secondary education has become possible only recently. This is a phase of pivotal importance in the transition to adulthood, during which young people can acquire useful qualifications and skills in order to successfully enter the labour market, and in which it is necessary to decide whether to enroll in tertiary education pathways or not. International literature points out that children of immigrants experience more bumpy school careers than those of natives. However, these disparities are going to be reduced on the basis of the migratory status of the children: compared to the first generations, the second ones obtain better results, and the disadvantage is almost completely erased when processing children of mixed couples. Therefore, the «assimilation hypothesis» seems to be confirmed, since a tighter integration of the family in the Italian context, together with a longer stay and a better knowledge of the Italian language foster a convergence in educational attainments, between natives and foreigners. Nevertheless, since Italy is one of the Western countries where school choices and job careers are most heavily influenced by ascriptive factors, it becomes essential to investigate the role played by the different opportunities and resources that social classes offer to their members. In this sense, it has long been known that the foreign population in Italy is mostly engaged in low-skilled occupations, especially immediately after their entry in the country. Furthermore, the marked lack of fluidity in the social mobility system between generations, and the rigidity of careers' paths contribute to making difficult, for immigrants and their children, to improve their socio-economic condition. Starting from this premise and using data from the Italian Labor Force Survey (2015-2019), the aim of this study is to explore several dimensions, such as: the educational pathways, drop-out risks and the educational choices regarding tertiary education of children aged 15 to*

This paper has been jointly co-authored. However, for only formal attributional purposes, Gabriella D'Ambrosio may be considered responsible for the Introduction, paragraph 1 and Conclusion; Pasquale di Padova for paragraph 2.

19, both natives or not, who live with at least one parent, taking into account the family social class and the migratory background. This leads to update the evidence which emerged in the previous studies on this subject in the Italian context, regarding the way in which the positive effects of the acculturation process of foreigners in the host society are conditioned by class belonging. This is now possible thanks to the availability of reliable data collected in recent years in which, due to migratory and demographic dynamics, the presence of immigrants' children has considerably grown in the age group 15-19 and in upper secondary schools.

KEYWORDS: *Educational Attainment, Inequality, Social Classes, Generational Status, Migrant Background.*

Introduction

Unlike the other Western nations, Italy is a country of recent immigration since it is only from the beginning of the Nineties that, due to its geographical and cultural position, it has started to record an increasingly number of foreigners which led to become, at the beginning of January 2020, the fourth European Member State in terms of non-nationals living presence (5.0 million) after Germany (10.4 million), Spain (5.2 million) and France (5.1 million) (EUROSTAT, 2021). This is the reason why studying the participation of foreign children in Italian education and VET pathways has become possible only recently, especially as a consequence of the increasing number of first, second generations and mixed couples' children (Ceravolo, Molina, 2013; ISTAT, 2020).

In this respect, both national and international literature related to the educational careers of immigrant students points out three specific issues: first, children of immigrants experience more bumpy educational careers than those of natives (Heath et al., 2008; Borgna, 2016); second, foreign students show a greater preference for vocational or technical institutes, while Italian students sign up more frequently for high secondary schools (called *licei*) (Canino, 2010; Azzolini, Barone, 2012); then, the choice of the secondary school impacts on the decision of enrollment in tertiary education pathways (Vergolini, Vlach, 2017; Azzolini et al., 2019).

However, looking at immigrants' educational levels, these disparities are reduced on the basis of the migratory status of the children: indeed, compared to the first generations, the second ones achieve better results (OECD, 2006; Di Bartolomeo, 2011; Molina, 2014), and the disadvantage is almost completely erased when analysing the children of mixed couples (Azzolini, Barone, 2013). So, the «assimilation hypothesis» seems to be confirmed since a tighter integration of the family in the Italian context, the length of the stay in the host country and the proficiency in the destination language foster a convergence in educational attainments between natives and foreigners. Nevertheless, since Italy is one of the

Western countries where school decisions and job careers are most heavily influenced by ascriptive factors (Barone et al., 2018; Colombo, 2014), it becomes essential to question the role played by the positioning of the family within the system of social stratification, in order to be able to assess how deeply the disadvantage is linked to the migratory background or to the different opportunities and resources that the social classes offer to their members (composition hypothesis). Furthermore, the scarce elasticity of the social mobility between generations and the rigidity of working careers contribute to making difficult for immigrants and their children to improve their socio-economic condition.

1. Data and methods

Starting from this premise, using data from the Italian Labor Force Survey (hereafter, «LFS») from 2015 to 2019, the aim of the study is to explore the educational pathways, drop-out risks and the educational choices regarding tertiary education of children aged 15-24, both natives or not, who live with at least one parent¹, considering their generational status and social class of origin. With regard to the first aspects, we distinguish natives (native-born children of native-born parents), first generations (foreign-born children of foreign-born parents), second generations (native-born children of foreign-born parents) and mixed parentage (children who have only one foreign-born parent). With regard to the parents' social classes, we used the European Socio-economic Classification (Rose, Harrison, 2010), which is a categorical social class schema based on the concept of employment relations, in line with the widely used schema known as EGP – Erikson-Goldthorpe-Portocarero (see, e.g., Erikson, Goldthorpe, 1992). However, differently from EGP, for which the authors have never provided a detailed description of the construction procedures, the European Socio-economic Classification has the merit of having undergone a long and meticulous validation process. When parents belong to different social classes, the child is assigned to the highest social class held by one of the parents, on the basis of the dominance principle while, in the case of single-parent families, it coincides with the social class held by the only present parent². Households for which information on parents' employment status is not available (inactive or unemployed people) are also included in the analysis: these cases, when at least one parent is actively seeking a job, are classified in the category called «unemployed parents». Finally, it is necessary to underline that, in all the elaborations presented in this paper, a system of weights, rescaled to the actual number of available

¹ In this dataset, the share of children aged 15-24 living with at least one parent amounts to 93.7%.

² These analyses have been replicated excluding single-parent families. However, no relevant differences were found.

observations, has been applied: in this way, it is possible to read the reported rates as estimates on the general population but, at the same time, in Tab. 1, the real numbers of cases on which the analysis has been effectively carried out³ are presented.

2. Results

Before proceeding with the description of the results of our analysis, we include the following introductory table (Tab. 1) in order to describe our sample. What emerges from data is that second generations are younger than the others and that young people of both first and second generations are more located in the North of the country, while children of mixed couples do not have a geographic distribution that differs significantly from the natives' one. Similarly, we noticed that the social origin is more or less equal between natives and children of mixed couples, while the disadvantage of the second generations (even more marked for the first generations) emerges clearly when considering that most of these children live in families whose parents are employed in low-skilled occupations (about 70% of the first generations and almost 60% of the second ones) or more exposed to the unemployment status. Finally, if we look at parents' highest educational level, we observe a greater concentration of children with a migrant background living in families with a low cultural capital (almost 60% of the parents of the first-generation children and half of those of the second generations do not go beyond the primary level compared to about 40% of natives).

As already specified in the theoretical framework, in our case we observe an increase in the risk of early school leaving linked to the disadvantage of families, especially among children of foreign origin (Tab. 2). However, while within each social class the distance between natives, second generations and children of mixed couples appears to be more limited, the gap between the first generations and natives seems to be more consistent, even when the social class of origin is equal. It is also interesting to note, in Tab. 2, that within the second generations this specific rate shows less variability (the difference between the minimum and maximum is less than 10 percentage points while among the natives it is almost 30 points), which suggests that second generations children tend to stay longer in the educational system, regardless the poorer socio-economic conditions of their families.

³ Given w_{0ij} =annual population weight of respondent i for year j , n_j =total number of respondents in the year j and $N_j = \sum w_{0ij}$, the rescaled weight w_{1ij} is computed as $\frac{w_{0ij} * n_j}{N_j}$.

TAB. 1. Weighted statistics for 15-24 children living with their parents

	Natives		First generation		Second generation		Mixed parentage	
Gender								
Male	115.491	(51,8)	10.135	(55,4)	5.190	(51,6)	8.383	(53,2)
Female	107.281	(48,2)	8.156	(44,6)	4.860	(48,4)	7.364	(46,8)
Age								
15-19	110.825	(49,8)	8.899	(48,7)	6.873	(68,4)	8.634	(54,8)
20-24	111.947	(50,3)	9.392	(51,4)	3.177	(31,6)	7.113	(45,2)
Area								
North	90.880	(40,8)	11.335	(62,0)	5.905	(58,8)	6.494	(41,2)
Centre	39.077	(17,5)	4.397	(24,0)	2.449	(24,4)	2.839	(18)
South	92.815	(41,7)	2.559	(14,0)	1.697	(16,9)	6.413	(40,7)
Social class of parents								
Higher salariat	37.388	(18,8)	226	(1,3)	355	(4,0)	2.434	(16,7)
Lower salariat	38.805	(19,6)	419	(2,5)	530	(6,0)	2.563	(17,6)
Higher grade white collars	16.594	(8,4)	107	(0,6)	267	(3,0)	980	(6,7)
Petit bourgeoisie or independents	33.130	(16,7)	1.940	(11,4)	1.348	(15,2)	2.831	(19,4)
Higher grade blue collars	9.386	(4,7)	1.018	(6,0)	494	(5,6)	769	(5,3)
Lower grade white collar workers	17.599	(8,9)	2.508	(14,8)	1.230	(13,9)	1.428	(9,8)
Skilled, Semi-, non-skilled workers	35.772	(18,0)	9.433	(55,5)	3.875	(43,7)	2.937	(20,1)
Unemployed parents	9.854	(5,0)	1.352	(8,0)	760	(8,6)	642	(4,4)
Parents' education								
Lower secondary or less	94.474	(42,4)	10.917	(59,7)	5.278	(52,5)	5.493	(34,9)
Upper secondary	87.714	(39,4)	5.268	(28,8)	3.382	(33,7)	6.779	(43,0)
Tertiary	40.584	(18,2)	2.106	(11,5)	1.391	(13,8)	3.475	(22,1)
Sample	222.772	(83,5)	18.291	(6,9)	10.050	(3,8)	15.747	(5,9)

Source: LFS 2015-2019 pooled data; column percentages in parenthesis

TAB. 2. *Early leavers from education and training aged 18-24 (social class of origin and generational status being equal)*

School dropout	<i>Generational status</i>				<i>Row totals</i>
	Natives	First generation	Second generation	Mixed parentage	
<i>Social class of parents</i>					
Higher salariat	2,0	3,8	8,1	3,7	2,2
Lower salariat	3,4	8,6	8,7	4,4	3,6
Higher grade white collars	4,6	13,7	8,8	6,8	4,8
Petit bourgeoisie or independents	10,8	33,3	17,5	12,2	12,3
Higher grade blue collars	10,8	27,6	17,5	14,9	12,9
Lower grade white collar workers	12,3	24,5	13,7	15,9	14,1
Skilled, Semi-, non-skilled workers	18,8	26,0	15,7	18,6	20,0
Unemployed parents	31,0	26,3	14,5	22,3	29,2
<i>Column totals</i>	<i>9,8</i>	<i>26,1</i>	<i>14,5</i>	<i>11,3</i>	

Source: LFS 2015-2019 pooled data

With regard to the secondary school choices of students (Tab. 3), it is possible to observe that high schools, whose choice is undoubtedly an effective predictor for the continuation of studies at university level, are preferred by about half of the natives and children of mixed couples, as well as by families located in the upper positions of the social stratification while students of foreign origin, especially those who are children of low and medium-skilled workers, prefer technical and vocational branches. However, once again, the differences between migratory status tend to weaken when social classes are equal. Indeed, the distance between the column percentages corresponding to the four migratory statuses are relatively small within each social class, especially when compared with the column totals reported at the foot of Tab. 3. Once again, this data confirms that a significant share of the chances of school achievement of children with a migrant background depends on the integration in the economic system in the host country of their parents and, therefore, on the class position they achieved.

TAB. 3. *Type of school chosen by pupils enrolled in upper secondary education by social origin and generational status (social class of origin and generational status being equal)*

Educational choices in upper secondary education		<i>Generational status</i>				<i>School track by social origin</i>
<i>Social class of parents</i>	<i>School track</i>	Natives	First generation	Second generation	Mixed parentage	
Higher salariat	General	74,9	71,6	64,1	73,1	74,5
	Technical	18,9	18,9	30,9	22,7	19,3
	Vocational	6,2	9,5	5,0	4,2	6,2

Lower salariat	General	63,5	52,4	51,6	55,6	<i>62,6</i>
	Technical	27,0	33,8	40,6	31,1	<i>27,6</i>
	Vocational	9,5	13,9	7,8	13,3	<i>9,8</i>
Higher grade white collars	General	53,7	46,5	53,3	52,6	<i>53,5</i>
	Technical	34,6	35,0	30,2	35,6	<i>34,6</i>
	Vocational	11,7	18,5	16,4	11,8	<i>11,9</i>
Petit bourgeoisie or independents	General	44,5	30,7	49,4	45,7	<i>44,2</i>
	Technical	38,3	42,3	33,0	35,5	<i>38,0</i>
	Vocational	17,3	27,0	17,6	18,8	<i>17,8</i>
Higher grade blue collars	General	40,9	31,5	35,2	40,5	<i>39,9</i>
	Technical	38,3	44,4	45,5	34,8	<i>38,8</i>
	Vocational	20,8	24,1	19,4	24,7	<i>21,3</i>
Lower grade white collar workers	General	42,8	32,0	39,3	38,4	<i>41,2</i>
	Technical	36,1	39,6	39,4	41,9	<i>37,1</i>
	Vocational	21,1	28,4	21,3	19,8	<i>21,7</i>
Skilled, Semi-, non-skilled workers	General	32,9	27,6	33,2	33,5	<i>32,1</i>
	Technical	39,8	40,2	41,3	41,8	<i>40,2</i>
	Vocational	27,3	32,1	25,4	24,7	<i>27,7</i>
Parents unemployed	General	36,8	26,4	30,1	39,1	<i>35,3</i>
	Technical	36,3	45,3	40,9	39,2	<i>37,8</i>
	Vocational	26,8	28,3	29,0	21,7	<i>26,9</i>
<i>School track by generational status</i>	General	<i>52,9</i>	<i>30,4</i>	<i>39,0</i>	<i>49,6</i>	
	Technical	<i>31,6</i>	<i>40,3</i>	<i>39,3</i>	<i>34,2</i>	
	Vocational	<i>15,4</i>	<i>29,3</i>	<i>21,7</i>	<i>16,2</i>	

Source: LFS 2015-2019 pooled data

Analysing the school choices of natives and foreigners and focusing the attention on the different distribution of children in social classes (Tab. 4), we observe that, although the migratory background exerts a powerful influence on every step of the social ladder, within each single class the differences between children of foreign origin and natives are considerably mitigated, confirming the important role played by the family context in the transmission of inequalities to children.

Looking at the last row of Tab. 4, however, there is a marked effect of being of foreign origin on the rates of completion of upper secondary education, especially for the first generations children who belong to middle and low social classes. However, if we also consider the socio-economic characteristics of the family of origin, we see that within social classes these differences are less marked.

TAB. 4. *Share of children who have completed at least upper secondary education in the age class 20-24 (social class of origin and generational status being equal)*

Completion of upper secondary education	<i>Generational status</i>				<i>Row totals</i>
	Natives	First generation	Second generation	Mixed Parentage	
<i>Social class of parents</i>					
Higher salariat	95,2	83,0	83,1	92,8	94,7
Lower salariat	91,9	79,5	84,8	89,8	91,5
Higher grade white collars	89,6	69,8	72,8	87,9	89,0
Petit bourgeoisie or independents	80,7	44,7	64,0	74,8	78,0
Higher grade blue collars	77,8	42,8	67,0	70,1	73,7
Lower grade white collar workers	76,5	49,1	71,4	69,5	72,8
Skilled, Semi-, non-skilled workers	68,7	46,1	65,7	65,8	64,1
Parents unemployed	58,3	43,9	64,9	65,9	57,1
<i>Column totals</i>	<i>82,4</i>	<i>47,3</i>	<i>69,1</i>	<i>78,2</i>	

Source: LFS 2015-2019 pooled data

Finally, focusing on a recent phenomenon, that is the decision of foreign students to enroll in academic pathways, it is interesting to note that once the obstacle of the diploma has been overcome, despite all the difficulties investigated in the previous tables, the effect of the migratory background weakens considerably, while the well-known impact of the social class of origin on tertiary enrollment remains strong and stable (Tab. 5). Indeed, while at the peak of social stratification the differences between natives and children of foreign origin almost disappear, the children of parents born abroad, even compared to those of mixed couples, show a propensity to continue their studies after graduation which is higher than those of natives and less tied to social background. This trend is particularly marked for the second generations, where for example more than half of the children of low and medium skilled workers and more than 40% of young people in families with unemployed parents are enrolled at university against about 1/3 of the natives.

Hypothetically, this aspect could be attributed to some specific cultures of origin of the children of foreign origin which, as documented in the literature (Heath et al.), in some cases, allow them to obtain better academic results than those of the natives (ISTAT, 2020). However, observing the entry to university' rates per area of birth of the parents, it emerges that this trend is absolutely transversal within first and second generations, and therefore it does not depend on the specific family cultures of origin¹.

¹ For lack of space, the table is omitted.

TAB. 5. *Share of children who have completed upper secondary education and have already graduated or are currently enrolled in tertiary level courses (social class of origin and generational status being equal)*

<i>Social class of parents</i>	<i>Educational choices in tertiary education</i>				<i>Row totals</i>
	<i>Natives</i>	<i>First generation</i>	<i>Second generation</i>	<i>Mixed parentage</i>	
Higher salariat	77,8	79,9	73,4	74,9	77,6
Lower salariat	68,1	59,7	67,0	66,1	67,9
Higher grade white collars	60,4	63,0	71,5	58,0	60,4
Petit bourgeoisie or independents	47,2	46,2	55,3	51,0	47,5
Higher grade blue collars	44,9	42,0	41,8	48,4	44,8
Lower grade white collar workers	46,5	43,7	50,3	41,7	46,1
Skilled, Semi-, non-skilled workers	35,0	40,1	53,7	40,4	36,7
Parents unemployed	33,8	38,3	42,5	36,1	34,7
<i>Column totals</i>	<i>55,6</i>	<i>43,0</i>	<i>54,8</i>	<i>55,1</i>	

Source: LFS 2015-2019 pooled data

Conclusion

In conclusion, summarizing our results, we can say that the differences between natives and foreigners are significantly reduced considering the social classes. Nonetheless, the migration status continues to exert its effect even net of the social class of the family of origin (the so-called «composition hypothesis» cannot account for all the differences observed between natives and children with migratory background). Moreover, the second generations obtain better educational results than the first ones, so confirming the acculturation hypothesis, and, in various aspects (university, drop-out), they obtain even better results than those of natives. In this sense, we notice that foreigners, especially second-generation ones, despite coming from disadvantaged conditions and from technical-vocational school branches, exhibit a greater propensity to enroll to university.

In this dataset we do not have information to further testing the reasons behind this interesting phenomenon but, in line with international research, we can suggest that it is related to the intergenerational transmission of expectations to children from their parents, who are positively selected compared to people that did not move from their country of origin (Heath, Brinbaum, 2014). In addition, foreign parents tend to socialize their children to ambitions that were related to their social class in the country of origin, rather than to their current position (Ichou, 2014). In this way, pushing the offspring to successful paths in study and work careers can be seen as a part of their desire of social upgrading. Moreover, children with immigrant background are often concerned about being discriminated in their future

career, and for this reason they think they have to obtain qualifications higher than those of natives to protect themselves (Kilpi-Jakonen, 2011). In this sense, schools play the significant role of counterbalance for the «home difficulties» and it becomes essential for student's achievement (Robert, 2010).

Finally, as an indication of specific policy, we suggest, in the broader framework of the fight against inequalities, that better guidance policies, which foster the continuation of the studies of foreign children by leveraging their highest expectations, can favor their integration and better positioning in the employment structure: echoing the words of Dronkers (2010, 1), «education is one of the pillars of modern societies. That makes education and its quality such a salient topic, not only in the eyes of policy makers, but even more in the eyes of parents. International indicators of the quality of education, schools, teachers, etc., have become important tools for the decisions of both parents and public policy makers. More knowledge about the actual quality differences in education and their causes with reference to international standards and comparison has become vital for policy makers and multinational firms to guide their decisions».

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Social Inclusion and Educational Success: The Role of School in the Enhancement of the Experiences of Students with Migratory Background

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ABSTRACT: *The article aims to highlight the essential role of the school in supporting the educational success of students with a migratory cultural background, reducing early school leaving and encouraging their socialization and social inclusion. Regarding the specific case of the students who faced the experience of family reunification, only if schools are prepared to welcome their growth experiences, characterized by «before» and «after», «there» and «here», they will be able to really support them in the processes of school and social inclusion. This article therefore concludes with indications addressed to the school system so that this, today even more than yesterday, given the pandemic situation, is able to perform its dual function as an attractive pole of the requests posed by these young people and as a catalyst agent for their life plans.*

KEYWORDS: *Inclusion, School Success, Young people of foreign origin, Empowerment.*

Introduction: method and tools

The reflections presented in this paper come from a qualitative research carried out with twenty-six girls, teenagers, with a migratory cultural background, living in Florence and Madrid, in an interdisciplinary perspective, using Grounded Theory in a constructivist key as a method of investigation (Glaser, Strauss, 1967; Charmaz, 2006), and a semi-structured interview as a data collection tool (Atkinson, 1998). The investigation analysed the processes underlying identity building in girls with a migratory cultural background. Although the research included only girls, from the two hundred eighty-four codes that emerged from the analysis of the twenty-six interviews, come out various reflections on school and educational contexts which will be illustrated in the article.

Therefore, starting from these reflections, the article aims to highlight the essential role of the school in supporting the educational success of students with a migratory cultural background, reducing early school leaving and encouraging their socialization and social inclusion. In this regard, the paper will focus on the specific case of «left behind children».

1. The experience of the family reunification and the situation of the «left behind children»

The formation of immigrant families in our societies has always been considered as an indicator of social inclusion. But, in fact, the situation of families with a migratory background (especially the newly established families in the destination country) contains many elements of fragility (Silva, 2006). A particular fragility is highlighted in reunited families in which one or both partners and/or children have lived a more or less long period apart from each other (Tognetti Bordogna, 2007).

Abdelmalek Sayad (1999), starting from his research on Algerian immigrants in France, coined the concept of «double absence» to describe their psychological as well as social precariousness. The double belonging to two cultural worlds, which in itself is a positive fact, in fact can generate a double absence: on one hand the immigrant in the destination country is not recognized, he is not integrated, it is as if he were not really present and, on the other hand, it is no longer present in the society of origin, from which it disintegrated, to use the expression of Ahmed Djouder.

The double absence in the case of immigrant families therefore proves to be a double fragility. This fragility is due to the fact that, in the meantime, family members have changed as well as their relationship (Ambrosini, 2010, 29). Reunited families may find different difficulties when, after family reunification, they return to live together. The process of migration and the experience of the family reunification often reports significant changes especially in the lives of children (Bolognesi, 2008).

I was sad but also happy... since I had the idea of returning to live together, also with my father. Because I practically did not know my dad. When he left, I was too young. Then I saw him when I was 10 years old... but it was only for a month and I did not know him... and I wanted to know him, I had this curiosity to see what person he was [...] Well the problem is that I did not want to stay here. But I also wanted to be here for my dad... so I had this confusion... (B., 17 years old, born in Peru, lives in Italy).

Well, my mom is a good person. As a mother she is a good mother and knows what is best for me. But let's say that by now she doesn't know me very well anymore, I realized that she doesn't know who I really am, I didn't grow up with her affection. There is a distance between the two of us (E., 14 years old, born in Bolivia, lives in Spain).

These daughters and sons were born elsewhere, socialized and educated for a few years in a different environment, lived separated from their parents, and they became immigrants during childhood or adolescence.

At the beginning, I spent all day, most of the time, sleeping... because I did not go out, I felt strange in a world that was not mine [...] yes, because I have been there for 17 years and it is all different... you

already have your friends, you are used to other things, to food. That is, it is difficult to get used to. I said: I do not like Spain, I do not like any of this, I want to go... I had these moments... I said to my mom: I want to go! I am leaving! Send me back to the Dominican Republic! And my mother used to tell me: no, you will see that you will get used to it... take it slow, with patience (F., 19, born in the Dominican Republic, lives in Spain).

These children and teenagers had to leave their previous lives behind and find themselves in a new context and this can affect them psychologically and physically.

Youth of the second generation from a standpoint of identity are forced to confront the categories and labels of their groups of origin as well as those of their native country. They are subject to a process of constructing themselves, made even more complex by the multiplicity of their sense of belonging, always through a distinct line of division, of separation. These diverse types of belonging constitute a fracture that is always emphasized by those who watch from the outside, whether in the family group or in the common group (Dusi, Messetti, González Falcón, 2015, 564).

Upon arrival in the new country, they also may need to acquire a new language and adapt to new rules and routines, especially in schools (Acocella, 2012).

2. Social inclusion and educational success in the multicultural Italian schools

Our present-day societies are characterised by an increasing both linguistic and cultural plurality: this multiculturalism also involves schools and ECEC services by raising the need of new competences and tools for educators and teachers to be able to welcome and guide the growth of all children. In Italy, the presence of students with a migratory cultural background has become a structural phenomenon. The Italian statistics for the 2019-2020 school year describe a national system in which there are about 860,000 students with «non-Italian citizenship» (MIUR, 2020). In the multicultural Italian schools we find a patchwork of origins with different cultural, linguistic and religious backgrounds (Ongini, 2011). The statistical reports highlights that in Italy the 10% of the school population have a migratory cultural background (Santagati, Colussi, 2019). Data from the Italian Ministry of Education reveal that, of these, almost a third, faced the experience of family reunification. The «left behind children» (Zanfrini, 2007) often differ from native children in terms of performance and attainment at school and represent that part of the population with a migratory cultural background that are most exposed to the dropout's risk and who faced multiple difficulties in social inclusion processes (Eurydice, 2019). This is also because, in Italy, these students are often enrolled in classes at a lower grade than that of their

age group, mainly because of language problems. Within this framework, scholastic and social integration paths of the reunited students are very often difficult and characterized by setbacks and critical moments that can affect their learning and development (Silva, Prisco, 2020, 139).

Early school leaving is one of the biggest problems in the European education system (Crul et al., 2012). In almost all European countries, the early leaving rate is higher for foreign-born than native-born young people (Eurydice, 2019) and children and adolescents «left behind» may be at greater risk to drug abuse, teenage pregnancy, violent behaviour and psychosocial problems (UNICEF, 2010). Studies also show us how these young people can find various difficulties when entering school. In fact, over and beyond the age of arrival, their study path is subject to several variables (Ambrosini, Pozzi, 2018):

- The age of entry into the school system.
- Inclusion in different age groups.
- The «decision» to attend technical and/or professional institutes.
- Learning a new language.

During their school attendance they can meet significant academic and educational difficulties. One of the biggest difficulties for children and adolescents «left behind» is the learning of a new language and the impact with the new environment.

It was difficult... the school was very different, all very different. The kids were wearing normal clothes because in Santo Domingo we have uniforms... and then I heard people talking and talking... and for me was very strange, I did not understand anything. And I remember that they looked at me, they spoke in Italian but I didn't understand. In fact, I remembered one day a guy said I was «noiosa». But I did not know the meaning of «noiosa». Then I went home and looked for the meaning: «boring»! Ah! Then I understood. Well, I'm not boring, I just didn't speak Italian (A., 20 years old, born in Dominican Republic, lives in Italy).

The experience linked to the feeling of being neither here nor there makes them vulnerable on a social and identity level. These experiences may have a significant impact on students' well-being and can increase their vulnerability, in a step of their life, such as adolescence, in which they are already fragile, making their scholastic and social integration even more difficult. Such situations can generate feelings of frustration, depression and demotivation.

Yes, and that worries me. The first day I arrived in Italy I was very worried about my Italian because I could not even buy a bottle of water. And there are also many Italians who do not speak English. I remember that I asked for water in English and they did not understand. So, I don't know, it was very difficult, I preferred not to leave the house, since no one understood me, and I could not communicate. Even at school, at first, I did not understand the lesson, I was very worried, I felt frustrated because in China I was good at school (S., 17 years old, born in China, lives in Italy).

From our research it emerges that these experiences can be configured as an element of vulnerability, but at the same time also as an element of enrichment that educational and training agencies can enhance by transforming it in an identity resource within the framework of an empowerment process. Only if schools are prepared to welcome their growth stories and experiences, characterized by «before» and «after», «there» and «here», they will be able to really support them in the processes of school and social inclusion.

So, when I entered the institute, the first day, just arriving, they wanted to give me an English test... when I had never attended English classes at the school where I was. I told to the teachers that I could not, that in my country I never took English classes... I wanted to explain my situation to see if I could take another language, I tried to explain... but nothing. They told me: «If you can't, leave it and find your life!». And I was shocked! I mean, just arrived and already out of school! And that is it, I left high school and went to find life as they said... to find a job, a place where I can be who I am (F., 19 years old, born in Dominican Republic, lives in Spain).

3. Welcome the experiences of students with a migratory cultural background: the role of the schools

Schools can play an important role in promoting a whole-school approach that is attentive to the holistic needs of all students. For this reason, schools can prevent, in a systemic and inclusive way, the phenomenon of school failure and early school leaving.

The re-elaboration of the migratory experience, facilitated by an adequate educational support able to leverage the ability for individual resilience, allows the inscription by the subject in his/her own biography (Ricucci, 2010). In this way, immigration, with its result of suffering, is assumed as a stage of an existential path with positive implications, and not as a wound incapable of healing (Motti-Stefanidi, Masten, 2017).

Boys and girls with a migratory cultural background know more worlds, more cultures, more languages. They know the «disorientation» but also how to adapt to new places, they know how to deal with the unexpected and precariousness by opening to other experiences (Schwartz, Meca, Cano, Lorenzo-Blanco, Unger, 2018). But this delicate process of empowerment and identity recognition (Berry, Phinney et al.), must be recognized, accompanied and supported by the school. Unfortunately, sometimes at school they do not receive specific support in this regard, they do not have a real opportunity to talk about themselves, about their stories and background and to reflect on their path. Instead, being able to meditate on their life experiences can be an opportunity to work on their formative biography (Lagomarsino, Erminio, 2019). As stated by some interviewees:

I believe that this kind of projects should be faced more often in schools. In my opinion it would help to integrate people and raise awareness on these issues.

I really enjoyed this evening with other girls like me. It helped me to understand that life is made, for each of us, in a different way and that it is not just me. I finally felt accepted for who I am and a lot of empathy with the other girls present. The best thing was talking to other people who can understand me.

This project has helped me to understand myself better. I often reflect on who I am but talking about it with someone else, out loud, saying everything I think, has helped me a lot. There should be more meetings like this.

Thanks to this project I was able to understand many aspects about myself and about other girls with very similar situations. Also, it opened my eyes to many things that I may not have known before. This afternoon has helped me a lot and I would like to do other projects like this one, even at school it would be nice.

Teachers and educators need to acquire competences and tools to be able to welcome and guide the growth of all children, accompanying them in their identity construction process (Eurydice, 2019). Teachers and educators must consider all the experiences, the stories and the backgrounds of these young people in their complexity. They must seek new interpretations and useful tools for understanding and interpreting their student's life trajectories. The reflections emerged from the research are intended to highlight that when it comes to integrating students with a migratory cultural background into schools there is a need to find individualised solutions and to adopt a holistic view of their needs. The school represents an important social context to support the inclusion and socialization of these adolescents.

Conclusion

The reflections that emerged from the interviews highlighted that we need to know the stories of the students that we daily meet in our classrooms. Only if we really know the nature of their needs and necessities, we will be able to accompany them. Their experiences need to find a real place, need to be heard, to be shared with others. To do this it, educators and teachers must acquire knowledge and tools provided by intercultural pedagogy, whose theoretical and methodological contributions will allow them to analyse various dimensions of plurality and complexity permeating present-day societies and to design educational activities and practices corresponding to the recognition of diversities, and to the plurality of educational needs expressed by students. We need professionals capable of:

- Consider the linguistic, social and cultural background of students and their families as extra competences and additional skills.
- «Staying» in diversity by valuing it.
- Reinforce their cultural, methodological, reflective and relational competences and skills (Catarsi, 2008).
- Exploring how to create moments of reflection and exchanges with their students in a democratic participative way capable of giving voice to diversities and similarities.
- Learn communicative strategies to dialogue with students in an open non-judgemental way, through active listening.

We must reinforce the:

- Ability/skill to read and understand contemporary European societies, especially in terms of socio-economic, cultural, and linguistic diversities and similarities.
- Ability/skill to perceive personal and sociocultural identities as fluid and ever-changing phenomena.
- Ability/skill to understand social issues faced by students with a migratory cultural background and their families, along with possible consequences in terms of exclusion and/or discrimination.

Teachers and educators need to have specific training in order to develop skills and tools to face the complexity and diversity that characterize our schools and societies today (Fiorucci, 2015). The school, in fact, must act not only as an agent of prevention from dropout's risk and socio-cultural isolation but must rather be configured as a device for protecting and safeguarding students' identity, offering them spaces for discussion that can help them to express themselves.

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Adoption, Foster Care, and the Complexity of Education

Inclusion, Wellbeing, Sharing: Storytelling and Listening in a Circle. How to Build Inclusion in a Classroom Setting

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ABSTRACT: *School is no longer just a place of study; we are constantly learning about its important role in the social, emotional and relational development of individuals. When pupils enter a classroom they carry inside their personal life. Teachers sometimes encounter stories full of «emptiness» and at other times those that are too «much» to handle. In order to help these experiences be voiced and unfolded in an inclusive setting, creation of specific moments dedicated to «storytelling» and «listening» is essential. Experience to-date with foster-care and adopted pupils has taught us that it is crucial to dedicate specific attention to these children, given also that in recent years their age of entry into a stable family environment is much higher and this significantly impacts schooling and learning. The considerations that can be drawn from their life experience must not lead us to single out these pupils and expose their vulnerabilities, increasing stereotypes within the classroom and socially, but should rather be aimed at providing new and meaningful opportunities of inclusion, concentrating activities on the importance of diversity, uniqueness, caring for others, trust, resilience, empathy. This presentation aims to illustrate how to work in classrooms using transverse methods in teaching practice so that each pupil is given time to «feel safe» and come to terms with his/her feelings, to gradually develop relationships with others, feel free to voice feelings or be silent, or to use images as expressive means, if he/she wishes. Following approval of the guidelines for the inclusion and wellbeing of adoptees in schools issued by the Italian Ministry of Education in 2014, classroom workshops were introduced from 2015 to-date, in schools with nursery to secondary school age pupils. The activities over the years involved manual methods; using illustrated book-reading, listening to music, viewing films, pupils were asked to express their views and were left free to «create» something with the aim of sharing what they had produced (from book-to-book according to Munari's methodology or creating multimedia storytelling). During classroom activities the teacher's presence was considered essential, since he/she not only participates actively, but is also the true «instrument» able to guide pupils to continue relating with their schoolfriends and thus improve awareness and understanding of each other. Families were also involved in the educational classroom workshops so that pupils would also find an inclusive environment at home, in «continuity» with school activities. Over the years, the classes that had continued with the educational classroom workshops reported a feeling of greater well-being when working together, pupils did not feel «obliged to speak», but their perception was that they were free to do so and that their experience and timing was respected.*

KEYWORDS: *Inclusion, workshops, adoptees, storytelling*

Introduction

Each child plays his own instrument and we can do nothing to change this. The difficulty lies in understanding each musician and finding the harmony. A good class is not a regiment that marches to the beat of a drum, it is an orchestra that is practising its own symphony. (D. Pennac)

«How many children are there in the world? There are many children and each one is unique and different from the other».

In a classroom we may have a «monkey-like child» who needs to cling to his/her place before adventuring out into the world; a sweet-and-sour «cat-like child» who at times enchants you with a smile and later scratches you fiercely with a paw; a «butterfly-like child» with precious delicate wings who needs to be handled with great care to avoid breaking them; the «fish-like child» who seems to be closed inside his/her bowl; and many others...

Each child has different characteristics that may derive from previous experiences, from persons they have met or their nonexistence, surrounding environment, lifestyle, relationships that have either been consolidated or are non-existent. Each child in his/her uniqueness has specific needs which require adults to find the «closeness or distance» that can make them feel comfortable enough «to be in a relationship», for example: «Not too close – if you wish, I will go.» «Not too distant – if you wish, I am here for you».

In addition to the aspects related to learning, today teachers are called on to give importance to the role played by life stories that need to be handled with care and included in class groups.

The knowledge acquired, thanks to developments in neuroscience, demonstrates that if one's mind is full of thoughts and elsewhere it is difficult to keep it concentrated on what is happening in the present and everything can become complicated. There is no doubt, therefore, that teachers play an important role in the life of their pupils also on an emotional and relational level that should be acknowledged by everyone.

Moreover, inclusion of life-stories unquestionably impacts personal feelings. Each meeting with another person's life-story can be emotionally moving and deeply touch the person to whom it is told. Teachers are, therefore, required to make space for their own personal feelings when listening to such stories since these activities may sometimes become a trigger that opens the «door» to previous events that have been thought to have been stored away in one's memory. As is known, feelings can lead to actions and choices that are made and put into practice. It is important, therefore, for teachers to understand their own feelings and uncertainties, and their meaning, so they can make way to thoughts and actions able to steer them beyond consolidated practice

and attitudes such as, for example: «We have always done things this way», and to help them realize and acknowledge that «It is possible to do things in other ways».

If we wish to create the «harmony» intended by Pennac, it is essential to value time and to build trust by creating good parent-teacher-parent relationships.

The creation of opportunities that enable listening and story-telling allows class members to find their «own space» thus allowing everyone to place their life-story within the class circle.

Stories cannot be told if no-one is there to listen and no story surfaces intactly when it is told. All stories are the result of contamination and can, therefore, be considered alive and productive, Cyrulnik reminds us that:

In order to tell the story of what has happened to us, it is essential to give time, a sufficient delay able to allow one to mentally return to what happened in order to create a sort of 'private film' in one's mind, in which it is possible, once more, to view the encounters that helped us or which dragged us down to the bottom [...]. Cultural beliefs that organize our environment, the way in which others look at our wounds and speak of them to us, convey a specific «taste» *to such event and structure our response.*

1. Why speak about adoption and foster-care?

Adoption and foster-care are life experiences full of meaning and essential values that are present in everyone's life.

Over the last two decades the average age at which children have been adopted in Italy has increased. Entry into a new family and school placement, therefore, often occur simultaneously. Between 2000 and 2019 of the total of 51.282 children who entered Italy through intercountry adoption, one out of two was aged between 5 and 9 years¹.

The «*Linee guida per la gestione delle adozioni internazionali*» issued by the Ministry of Education in 2014, followed by the «*Linee guida per la gestione delle adozioni internazionali*» issued in 2017, circulated to all schools throughout Italy, contain valuable indications based on real practice for application in teaching practice, for the purpose of assuring that students who have been adopted or fostered are given the required attention and care during school placement and transition periods, in order to safeguard their psychological and physical wellbeing, by stimulating school staff to consider «opportunities» for these children and avoid «labels». These valuable documents contain useful practical recommendations that invite teaching staff to re-examine

¹ 2019 Statistical Report on Intercountry Adoptions issued by the Italian Central Intercountry Adoption Authority (Commissione per le Adozioni Internazionali)

established practice with a view to implementing activities that can become inclusive of the life-story of each student.

Each time a child who has been adopted at the age of nine or ten and placed in grade two at primary school² mentions age, he/she tells a story of «having been elsewhere in the past». Skin colour and eye-shape immediately and implicitly speak of an untold story. The body tells a story long before the voice ever does. It is, therefore, important to question ourselves *not about how to* «Tell a story of adoption in class», *but how we can create* «listening opportunities» able to help students with such stories, in addition to the stories of all other class members, to feel that «they can let go» and that someone is there to «acknowledge their story and protect it».

A critical point that adoption and foster-care have in common is connected to the subject of «personal life-story». When in class we find stories that recall «having previously been in other places» it is important to assume an open attitude and to avoid making stereotyped requests such as: «Who chose your name?»; «Bring the photo of your prenatal scan»; «What was the first word you pronounced?». These requests can generate confusion and create difficulties for children and their parents. Since we all know that the life-stories we encounter in class are *all* diverse, such requests will not be inclusive for all students in class, but only for a few.

At times the life-story is bypassed by teachers, as if avoidance can help «escape» encountering «difficulties». The question to ask oneself should rather be: Is it possible to modify an activity proposed in a textbook by creating something that is «flexible» and with which each student can feel comfortable?

Rather than ask for the photograph of a prenatal scan, the choice of one's name or the first word spoken, each student could be left free to choose which moments in life are meaningful and if they would be pleased to share them with their classmates. For example: their first day at school, a visit to a particular place, meeting a friend, etc.

In the case of activities connected with the family tree, a flower could be used that can leave the student free to draw the number of petals based on the most significant persons in their life³.

All stories require an inclusive approach that avoids intrusion. Starting from stories of adoption and foster-care provides opportunities for inclusion of many important aspects of life that regard all class members: diversity, uniqueness, taking care of others, empathy, resilience, trust, building relationships.

² Flexibility made possible by the «*Guidelines for the promotion of the educational rights of students who have been adopted*»

³ Anna Guerrieri and Monya Ferritti – «Al centro del fiore», *Vita Scolastica* n. 8/2008.

2. Two projects that build a space in which to tell a story and listen in the classroom

From the publication of the above-mentioned *Guidelines*, it became possible to plan and implement two projects that were aimed at dealing with «adoption and foster-care» in order to design school activities in which each student could have the possibility to think of her/his own life-story.

The projects were implemented in two different cities: La Spezia (Liguria) and Sesto Fiorentino (Tuscany).

- «Parola d'ordine accoglienza. L'inserimento e l'accompagnamento degli alunni dalle storie differenti» (*Password: Inclusion. School placement and education of pupils with diverse backgrounds*). La Spezia 2015 – ongoing;
- «Uno per tutti, tutti per uno. Accoglienza, Benessere, Condivisione delle storie in classe» (*One for all, all for one: Inclusion, wellbeing, story sharing in the classroom*) Sesto Fiorentino 2017 – ongoing.

FIG. 1. Activities

<i>Projects</i>	<i>Where</i>	<i>When, organizers/involvement</i>	<i>For whom</i>	<i>Activities</i>
«Password: Inclusion. School placement and education of pupils with diverse backgrounds	La Spezia and provincial areas	From 2017-2018 Dedicated network ⁴ involving: private and state schools an intercountry adoption agency (CIFA) and 2 adoptive families' associations: «Genitori si diventa» and «Nati nel cuore» high school students from Liceo Scienze Umane (school year 2017/2018) as part of their work/study programme in human science	Teachers Pupils from nursery school up to secondary school Families	Teacher training Classroom Workshops Open workshops with participation of families Counselling for teachers and families
One for all, all	Sesto	Sesto Fiorentino	Teachers	Classroom

⁴ School year 2017/2018, 9 state schools in La Spezia and provincial area and 1 private school (Sacra famiglia) in La Spezia participated
School year 2018/2019, 7 state schools in La Spezia and provincial area and 1 private school (Sacra famiglia) in La Spezia participated
School year 2019/2020: the same schools as the previous year adhered again to the network.

for one: Inclusion, wellbeing, story sharing in the classroom	Fiorentino in the province of Florence	municipal authorities (Financed by «La Valigia delle Idee») Adoptive families' association «Le Querce in fiore» Sesto Fiorentino schools	Primary and secondary school pupils Families	workshops Open workshops with participation of families
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FIG. 2. Classes involved in the project: «Password: Inclusion. School placement and education of pupils with diverse backgrounds»

<i>School year</i>	<i>Nursery school</i>	<i>1st year primary</i>	<i>2nd year primary school</i>	<i>3rd year primary school</i>	<i>4th year primary school</i>	<i>5th year primary school</i>	<i>1st year secondary school</i>	<i>2nd year secondary school</i>	<i>3rd year secondary school</i>	<i>Total n. per year</i>
2015-16	-	2	1	1	1	2	-	-	-	7
2016-17	-	1	-	1	4	4	1	1	-	12
2017-18	5	3	5	2	4	1	3	1	1	25
2018-19	2	8	-	3	2	1	1	1	-	18
2019-20 ⁵	3	2	5	1	-	1	-	-	-	12
Total	10	16	11	8	11	9	5	3	1	74

As illustrated in the table, nursery school pupils started to participate in the workshops during school year 2017/2018 and they continued to do so during the following years.

There was a greater participation in activities from primary school children, above all those in the first year. During the following years the classes that continued to adhere to the proposals over time and took part in the workshops had the opportunity to consolidate the topics developed and referred a feeling of greater wellbeing within the class group.

As regards the presence of secondary school students, participation was constant; the drop in numbers was due to organizational difficulties because of COVID-19.

⁵ In this school year the workshops were interrupted due to the COVID-19 pandemic

FIG. 3. Classes involved in the project «One for all, all for one: Inclusion, wellbeing, story sharing in the classroom»

School year	Nursery school	1 st year primary school	2 nd year primary school	3 rd year primary school	4 th year primary school	5 th year primary school	1 st year secondary school	2 nd year secondary school	3 rd year secondary school	Total per year
2017-18	-	-	2	-	1	-	-	1	-	4
2018-19	-	-	-	3	-	-	-	2	1	6
2019-20 ⁶	-	-	-	-	1	1	1	-	2	5
Total	0	0	2	3	2	1	1	3	3	15

Compared to the activities in the territories of La Spezia, nursery schools and the first-year primary school classes did not participate in the Sesto Fiorentino area, whilst participation of secondary schools was constant over time.

Both projects were similar and share the same objective regarding care in handling life-stories by focusing thoughts on «ingredients» such as: feelings, building relationships, self-care and care for others, identity, diversity, empathy and resilience.

These elements are central both within workshop activities⁷, as well as the teacher-training programme.

Each activity is based on awareness that it is possible to «stop and think», to delay if necessary, and sometimes build spaces, in which each person, by taking time, has the possibility to think about themselves, about their own past story and, sometimes, also about future expectations.

The activities carried out over the years involved a method that concentrates on «doing» something (according to Munari's pedagogical principles) starting from «mediators» that lead participants to think and evoke. Each participant is «active» and is called on to feel and experience.

The activities are based on the use of illustrated books, music, films, etc. able to stimulate participants to think and then exercise their creativity to produce individual work and/or sometimes to work within a group in which each member freely chooses up to what point she/he wishes to speak of herself. When choosing such materials, it is essential to carefully avoid ending up in stereotyped categories that can induce «exclusion» such as, for example, books that are directly connected to adoption and foster-care, or skin colour, etc. It is important to carefully choose «mediators» that have a deep meaning and in which each class member can find a profound sense of self and acknowledge the originality that is part of every life-story.

⁶ In this school year the workshops were interrupted due to the COVID-19 pandemic

⁷ Each workshop cycle involves a minimum of 3 to a maximum of 5 meetings with a duration of 2 hours each.

Starting from illustrated books, some students created multimedia storytelling using a tablet or a computer.

Music played a central role with secondary school children. As Ezio Bosso reminded us: «Music teaches us the most important thing that exists: how to listen». Each student found a way of self-appraisal through the rhythm and/or the lyrics; through the various phases of the workshops, the classes were able to create real musical videos in which each student was able to say something about themselves according to the type of stimulus received.

In addition to illustrated books, experimenting with loose parts such as natural, recovered or scrapped elements, giving life to new objects, was particularly evocative. Through the use of materials such as leaves, bottle caps or corks, sand, stones, etc., the 5 senses were stimulated; each participant was then able to give life to something personal and creative. In this type of activity, contrary to others, there is always someone who finishes «first» or who is «cleverer» than others, there is no «winner or loser», but it is possible to explore unknown talents.

This type of story-telling is not aimed at establishing the «truth», nor presenting a precise and detailed description of what happened. On the contrary, it allows participants to re-frame their thoughts by «drawing out» feelings in a more colourful way that enables them to speak of self in a more enjoyable manner and to share their «play-story» with others, which is not necessarily told using words, but also by using the body, sound and pictures.

It is necessary to underline that there is no automatic release of «parts of self» during these activities. Moreover, within a relationship built on trust, «can do» must entirely substitute «must-do» rules. During each workshop each member must feel free to think about self without necessarily feeling «obliged» to «say», «write», «draw», do anything.

These activities involving autobiographical work offer children the opportunity to find their own way of examining their memories and searching for meanings related to personal events. Autobiography methods aim to facilitate the efforts required to think about life as a never-ending story that we speak of to ourselves and to others.

Autobiographical exercises at school provide children with the opportunity to produce stories related to self, through a Project connected to the pleasure of speaking about oneself, creating opportunities for in-depth study and thought on issues concerning life. In this case, the school environment becomes a welcoming and protective place where it is possible to:

- Listen to oneself and listen to the stories told by others
- Learn self-awareness and to be aware of others
- Explore one's own memories and re-order one's inner world
- Value one's self and stimulate the various forms of thought.

During these moments flexibility is a *must*, since what happens in certain moments can reserve unexpected results that do not correspond with one's plans and preparations. Often on entry in class all these must

necessarily leave space and time for concentration on what is happening there and then which may require a change in plans and new preparation. This is sometimes due to what has happened immediately before arrival, such as conflicts between classmates, unexpected loss, new encounters and this often leaves unspoken traces that may be revealed by the emotional curves of a smiling or tearful face.

In such cases, before proceeding, a pause to stop and think may be required in order to listen to the force of such silences. During the workshops it became necessary to change activity more than once because the class was on «another planet» with respect to our expectations.

The starting point of the workshops include «space» and «time» dedicated to thoughts and feelings. At the beginning of the cycle each class is given a custom-made box in which students can post notes on feelings and thoughts related to the class. This opportunity is not introduced as an obligation to say anything, but as an invitation to each participant to look inside themselves. The objective is not to make participants feel obliged to say anything, but rather to let them know that if they want to say something, there is a way that respects their privacy.

Containing feelings stirs other feelings; very often when we are faced with situations of anger or sadness we tend to try to «wipe them away» and to direct our thoughts elsewhere. However, the tentative to modify a feeling, an attitude that often belongs to adults, very often strengthens it, generating misunderstanding. It is better to show «closeness» in such cases, to acknowledge such feelings without adding anything, and to allow time for them to flow out and proceed from there.

2.1. The teacher's role

In order to organize and implement these projects, close cooperation with headteachers and class teachers is essential, first and foremost the teacher nominated by various schools as a trained «adoption facilitator»⁸.

For each class adhering to the workshops, participation of at least one teacher from such class is required, since the external expert has a «partial» view of class members and their stories.

Thanks to the activities, the teacher also has the opportunity to see the students in action from another perspective and is thus able to understand the dynamics that differ from those seen during routine teaching activity.

⁸ The adoption facilitator has a role described in the Guidelines which recommend such nomination within each school. This role is very important during school placement, transitions, for teacher-family relations and in order to inform school staff on adoption issues and good practices regarding educational aspects involving students who have been adopted. Such role involves a teacher who has been specifically trained in adoption issues and is, therefore, able to transfer know-how in this area to colleagues and implement useful and productive teacher-parent-teacher communications.

Building synergy with the teacher is essential, since she/he is made to feel as an active part of the storytelling and listening process within the class.

The teacher has the opportunity to experience in-class training, therefore, and also to re-experiment and reinvent meaningful moments within the class.

The best results in terms of well-being in the classroom were obtained in those situations in which, during the periods between one workshop and the next with the external expert, the teacher created opportunities in which to slow down teaching practice and seek counselling.

Within the teacher training sessions, practical testing was also necessary, not so much as to disrupt existing teaching methods, but with the intention of exercising application of new ideas in place of the standard «pre-organized proposals» available.

C"lgy "vgcej gtu"y j q"vqnr ctv"kp"dqj "vj g"uwf gpv"y qtmuj qr u"cpf "vj g"vgcej gt"vtckpki "uguulqpu."f guetldgf "vj g"cevkkl "cu"lqmqy u<

An exciting experience, to say the least, full of activities that involved everyone, students and teachers: students who actively participated even when the discussion was difficult to face and sustain, teachers who, by getting involved, cooperated with curiosity and joyfully shared every moment experienced in the classroom.

Everything was useful and precious, including the hours dedicated to training during which we were asked to sit at the students' desks and happily share carefree moments in workshop activities.

The meetings with the experts, excellent ideas for personal thought, provided us with both stimuli as well as precious information, together with interesting aspects connected to current issues that are not always so obvious.

For us, each occasion was a nurturing one, not only because of the teaching and pedagogical empowerment, but also thanks to the knowledge that goes beyond teaching aspects and reveals new perspectives.

2.2. Why to involve families?

kpxqrgo gpv"qh"lco kngu"y cu"cp"kuwg"qp"y j lej "y g"swgukppgf "qwtugxgu" ko o gf kvgrf."dw' qprf "kp"vko g"y g"eco g"vq"wpf gtucpf "y j lej "v r g"qh' cevkkl "y cu"vj g"dguv"ppg"cdrg"vq"cej kxg"eqpvkkl "dgw ggp"vj g"y qtnf f ppg"kp"ercuu"cpf "eqo o vplecvqp"cvj qo g0

Y g"ltgswgpvr "tgrkl gf "vj cv"lco kngu"y g"gtg"pqv"cy ctg"qh"vj g"eqvpgpw"qh' qwt"y qtn"cpf "vj cv"vj g"qhgp"lgn"vj cv"vj g"cf qr vqp"cpf "lquvt/ectg"kuwgu" y g"gtg"pqv"uqo gv kpi "v"lgnr"lpxqrgf "kp"ukpeg"vj g"y g"gtg"pqv"r gtuqpcrf "vqwej gf 0

Qxgt" vj g"l gctu" cpf " f wg" vq" vj g"gzvgpukqp" qh' dqj " r tqlgew."y g"tg/ qti cpkl gf " vj g"ercuutqo "y qtmuj qr u" cpf " kperwf gf " f ktgev' cpf " cevkxg" kpxqrgo gpv" qh' lco kngu." kpxkpi " vj go " vq" r ctvlekr cvg" kp" c"ercuutqo "

o ggkpi 0'Vj ku"o ggkpi "ku"pqto cmf "r ræppgf "vq"dg"j grf 'y j gp"j crh'qh'v'j g" y qtm'ij qr "e'f erog"j cu"dgpp"eqo r rvgf "uq"v'j cv'v'j g"uwf gpw"j cxg"j cf "vko g" vq"f kuewu"cpf "ceegr v'v'j g"r tqr qucnu"o cf g0'P qto cmf "v'j g"r tgupeg"qh' r ctgpw"ku"pqv'eqpulf gtgf "guugpvcn'cpf "kp"hc'ev'v'j g'j cxg"j cf "ecugu"qh'qrf gt" dtqv'j gtu."vpergu"cpf "i tcpf r ctgpw"eqo kpi "vq"uej qqr0

Uctv'kpi "htqo "cp"kp'k'cn'vko wwu."pqto cmf "dqqrnt'gcf kpi ."v'j g"uwf gpw"j cpf "v'j gk"hc'o kngu"ctg"kp'xkgf "vq" y qtm "vq'i gv'j gt"d' "vt' kpi "vq"v'j kpn'cpf "etgcv'g"uqo gv'j kpi "v'j cv'ku'r gtuqpcr0

Fwt'kpi "qpg"qh'v'j gug"qeeck'apu'y kj kp'v'j g"r tq'ge'v'ko r rgo gpv'gf "kp"Uguv'q" Hqtgp'v'p'q."y g"ectt'kgf "qww"cev'x'k'ngu"uctv'kpi "htqo "dqqrnt'gcf kpi "kp'y j kej " v'j g"o clp'ej ctcev't"ku"r gpek'p'co gf " Tgf 0

Kp'tgcr'k' " Tgf "f tcy u"gxgt' v'j kpi " Dmwg "cpf "gxgt' qpg."uctv'kpi "htqo " v'j g"o qv'j gt'v'j tqw' j "vq"v'j g"qv'j gt"r gpek'p'ecug'eqo r cpl'apu'cpf "ht'kgpf u."vt'kgu" vq"hp'f 'y j cv'r tqdrgo "j g'j cu'cpf "vq"kf gp'v'k'f "cpf "tguq'x'g"ko'G'xgt' qpg"r'q'q'm' c'v' Tgf "uctv'kpi "htqo "j ku"redgr'0'Qp"tgcej kpi "v'j ku'r qkp'v'qh'v'j g"uv'qt' "y g" uv'qr r gf "t'gcf kpi "cpf "cung'f "v'j g"uwf gpw"j cpf "v'j gk"hc'o k'f "o go dgtu"vq"vt' " cpf 'y tk'g'v'j g'r qu'kdrg'gp'f kpi u"vq"v'j g"uv'qt' "d' "r qu'kpi "v'j g"sv'g'uv'k'p'p' Y j cv' ecp"dg'f qpg"vq"j gr "Tgf A 0

Vj gug'ctg"c"hg'y "o gcpl'kpi hwt'gr r'gu"v'j cv'eco g"ht'v'j <

- Kp'uv'gcf "qh'v'g'm'kpi "j ko "v'j cv'j g'y k'n'p'qv'dg"cdrg"vq"o cng'k'v'j cv'k'ly g" cum'ij ko "y j cv'eq'qv'wt"j g"hg'nu"r'ng'A'Ce'eq'tf kpi "vq"v'j g"eq'qv'wt"j g"hg'nu" r'ng."j gr "j ko "vq"v'f q'v'j g'v'j kpi u"v'j cv'j g"hg'nu"j g"ecp'f q0'H'qt'gz'co r r'ng." kp'uv'gcf "qh'v'cun'kpi "j ko "vq"v'f tcy "u'tcy dg'tt'kgu."r tqr qu'g"j g'f tcy u"v'j g" un'f 0

- Vj g"redgr'ecp"dg'f gr'ec'v'gr' "tgo q'x'gf 'y kj "ueku'qtu"uq"j g"ecp"ugg" j ku"v'w'g"eq'qv'wt'0'k'ij g'f q'g'up'v'p'ggf "c"redgr'gxgt' qpg"ecp"v'cng'")v'j gk'u)" qh'0

Vj gug"v'y q"eqpulf gtc'v'k'apu'ctg"o gcpl'kpi hwt'dge'cw'g"v'j g'f "uv'ggt'wu"v'qy ctf u" v'j g"cr r tcl'uc'rh'v'c'rg'p'v'cpf "pq'v'v'qy ctf u"v'j g"gz'r gev'v'k'apu"r qu'gf "d' "qv'j gtu'0' k'p'v'j g"gp'f " Tgf "o gv' Rtw'pg "f wt'kpi "j ku"v'c'x'g'nu"cpf " Rtw'pg "cung'f "j ko " vq"v'f tcy "cp"qeg'cp"ht'j gt"uj k "cpf "uq" Tgf "f k'ueq'x'gt'gf "kp"t'gcr'k' "j g'y cu" Dmwg 0

Vj g"o qu'v'o gcpl'kpi hwt'cpf "gzek'kpi "cur gev'u"qh'v'j gug"o qo gpw'y gtg'v'j g" i r'pegu"dgwy ggp"v'j g"r ct'v'ek' cpw'y j q"uggo "vq"j cxg"i k'x'gp"r'ng"vq"c" h'r' tqw' g "qh'gz'r g't'kg'peg'uj ctkpi ."d' /r cu'kpi "v'j g"uv'gt'g'q'v' r g'v'j cv' K'f q'gu'p'qv' eq'peg'tp"o g"dg'ec'w'ug"K'j cxg"p'qv' r'x'gf "k'v "cpf "w'p'f gtu'v'cpf kpi "v'j g"f ggr " o gcpl'kpi "qh'v'j g'x'c'w'gu"eq'p'p'gev'gf "vq"v'j g'c'emp'qy r'gf i go gpv'qh'f k'x'gt'uk'f 0

Eqpenwul'qp

Beatrice Alemagna in her book «Che cos'è un bambino?» (Who is a child?) reminds us that: «Children are like sponges, *they absorb everything from others*: nervousness, bad ideas, worries. They may seem

⁹ To date, these activities have been carried out in nursery and primary schools only.

to forget, but *everything re-appears in their schoolbag* or under the bedsheets. Children want to be *listened* to with eyes wide open.»

This citation reminds us that nothing necessarily «passes» during one's life, it evolves, but whatever we have lived through leaves a trace. When welcoming a child who has been adopted or who is in foster-care into our lives, we accept the experiences she/he has been through that will not necessarily reach us as «we might expect», but may sometimes arrive unexpectedly and in a disruptive manner.

It is important to grant «time» to facilitate authentic relationships able to make flexibility the centre of daily activity in teaching practice.

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The Educational Choices of Adopted Students

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ABSTRACT: *Students with an adoptive background are in a condition of multiple intersectionalities with an overlap of different identities: adoptive, ethnic, ability, which puts them in a position of possible multiple discrimination. They are often SENitized and schools often employ didactical tools specifically thought for students with SLD missing crucial issues such as the effects of PTSD and attachment difficulties, ignoring the hardship to deal with fragments of the past that need integration with the present. The medical determinants seem so overrepresented underestimating any other identity component. To better assess critical issues and actual resources of such students and their social environment, our work investigates their educational choices in comparison with those of their adoptive parents and how this data possibly differs from research on intergenerational educational mobility in Italy. The aim is to better understand the outcomes of such choices and formative paths. In the present work we offer the initial results of a wider research that proceeds qualitatively by two different tools, one intended for parents and one other for adoptees. The results we describe regard the answers collected in a brief period from parents, who adopted children born before 2002 in NA or IA, involved via an avalanche sampling, randomly distributed, without statistical significance. Questionnaires were distributed with closed and open CAWI questions. The tool intercepts the educational goals and achievements of adopted students and pupils from the point of view of their adoptive parents. Particular attention is devoted to critical issues in high school years, post-diploma education, first job experiences.*

KEYWORDS: *Adoption, Education, Inter-generational mobility.*

Introduction

The lives of adopted students combine multiple differences from the socio-economical, gender, cultural, ethnical, ability, sexual orientation point of view. Their educational success is often hindered by the outcomes of a plurality of unfavourable conditions that characterized the

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early and sometimes later stages of their lives (biological parents' health and addictions; deprivations and traumas suffered in childhood; genetical conditions that may have increased the possibility of neglect and abandonment, long periods of institutionalization, physical and psychological abuse, etc.). In the case of adopted pupils, the high socio-cultural level of adoptive families is not a predictor of the school performance of children and the data on school dropout seem comparable to those of more disadvantaged families. International and national research show that adoption, one of the most effective recovery interventions in every area of children's development, fails to guarantee the same in the area of school performance: higher frequency of Specific Learning Disorders (SLD); significantly higher than average attention difficulties, higher repetition rate and disciplinary measures. The greater vulnerability of these students compared to their non-adopted and non-foster care peers, if not adequately addressed, can generate risks of educational failure and social exclusion. How this vulnerability may be connected to other critical issues (different ethnicity, different familiar history, etc.) in interfering with school success, is yet little investigated and addressed¹. The peculiarities of the life-stories of such students are still very often misunderstood leading to over-diagnose learning disabilities in early life and psychiatric conditions later on. Their skin colour is often seen too little by adoptive families and care-givers while it is highly exposed in a society not inclusive enough. This puts them at a crossroads of further possible discriminations that must be addressed to minimize possible pernicious outcomes. This work aims to explore the educational paths and subsequently the work access outcomes of adopted pupils and students. We want to understand adoptees' social mobility² to assess, among other things, how the Italian school system is ready to address the needs of such specific students. Education, it must be recalled, is considered one of the main tools for social mobility. To better comprehend the adoptees' situation on this matter though, one must first briefly look at social mobility in Italy itself. The World Economic Forum's Global Social Mobility Index provides an assessment of 82

¹ To address the previous issues, to compensate inequalities, and to avoid discriminations, specific and cutting-edge policies were implemented in 2014 and 2017 in Italy, insofar the first and unique country (*Linee di indirizzo per il diritto allo studio degli alunni adottati; Linee guida per il diritto allo studio delle alunne e degli alunni fuori della famiglia di origine*). However recent research is showing that too few teachers are properly trained about their contents, or even know about them, severely reducing the effects of such policies.

² «Social mobility can be understood as the movement in personal circumstances either «upwards» or «downwards» of an individual in relation to those of their parents. In absolute terms, it is the ability of a child to experience a better life than their parents. On the other hand, relative social mobility is an assessment of the impact of socio-economic background on an individual's outcomes in life» (from the World Economic Forum website).

global economies: Italy is in 34th place. Italian research on intergenerational mobility has a long tradition and the data keep placing Italy among the countries with a too high intergenerational persistence of economic conditions (Cannari, D'Alessio, 2018). In recent years this phenomenon shows even an increasing trend putting further evidence on the low mobility of Italian society. The Italian school system has certainly to do with this phenomenon. Bonacini, Gallo and Scicchitano (2021) highlight that parental education and occupational skill levels have different effects on the living standards of their children, with the former appearing to be more relevant than the latter. This is particularly important, since, in Italy, students make choices regarding the secondary school (or dropping out from it) on the basis of parents' previously achieved results, profession and qualification, (Cannari, D'Alessio, 2018). PISA, the OECD's Program for International student assessment, shows in 2018 that, in Italy, there is a great correlation between poverty and education level and that the skills and abilities acquired by students are strongly linked to those of the families in which they were born and live. These observations appear confirmed if one analyzes the universe of students with parents of foreign origins. These students, in fact, tend to have lower school results (OECD, 2018) with respect to those of their peers. Their school dropout rate remains higher. Further it must be noticed that, on equal terms with respect to their peers, there is higher attendance rate of these students in technical and professional institutes (ISMU-MIUR 2020). This it could be due to two reasons. First of all, as already said, the choice of high school is made at a very young age and it is therefore conditioned by the family background. Secondly teachers themselves, being afraid of possible failures in schools that require strong family support, might over-induce the choice of technical and professional schools, perceiving them as «easier» and more work-oriented. It must be noticed however that students with parents of foreign origin but born in Italy tend to choose high schools more like Italian students. The assessment of the social mobility of adoptees is therefore situated in this context and, in providing interpretation of the results, the Italian situation must be carefully considered.

1. Literature on adult adoptees

International and national adoption professionals have often asserted that, at each developmental milestone from birth to death, adoptees face unique challenges, as their adopted status influences both the way they approach and the way they resolve each normal developmental task. Furthermore, «being adopted» generates different responses to major life events or transitions, such as the birth of one's first child (Borders et al.,

2000). Nowadays more researchers are concentrating on adult adoptees focusing mostly on the psychological aspects of adoption: search for origins, psycho-social well-being, educational and learning difficulties. Storsbergen, Juffer, van Son, Hart (2009), focusing on foreign adopters, assess their well-being and self-esteem: the majority of these adults are well integrated, although men report a higher rate of depression; adults who rate their adoption negatively have more problems than adults who rate their adoption positively or neutral. Very little still is done on social mobility but more can be found on education outcomes. Dalen et al. (2008) used the Swedish national registers to analyze how lower cognitive competence may influence the educational attainment of adoptees.

The most striking finding of this study was the positive impact of adoption on the educational level in the international adoptees. To put into other words: given their cognitive competence they had a better chance than the general population to reach the university level. Corresponding results for basic level education were similar. These results seem to demonstrate an education promoting ability of these adoptive families with their social embedding. This is further underlined by the more than average educational outcome of the biological children of these adoptive parents.

Cotè and Lalumière (2020) observed the psychological adaptation and cognitive abilities in different areas of 318 adults adopted at birth and 131 non-adopted adults. They noticed no difference between adopted and non-adopted participants on spatial and educative abilities. Female adoptees showed significantly lower global intellectual abilities than non-adopted female participants. Maughan et al. (1998), reported that adoptees perform more positively than non-adopted children from similar birth circumstances on childhood tests of reading, mathematics, and general ability, and retain this advantage in school-leaving and later adult qualifications. Individuals in the lowest decile of polygenic scores for education attained significantly education if they were adopted, possibly because of educationally supportive adoptive environments (Cheesman et al., 2020). The latter research is very recent and interesting, measuring passive gene–environment correlation using the information on 6,311 adoptees in the UK Biobank. Overall, these results strongly suggest that genetic influences on education are mediated via the home environment. Literature on the subject is still lacking in Italy. In particular longitudinal studies are missing as research based on authentic statistic samples. However, some Agencies for International Adoption mapped their families. Ciai-Eurisko (2008) noticed that a high percentage of their sample arrived to attend university and graduate. The percentage of those who attended university was triple compared to the general population. Cifa-Nova (2012) together with the University of Bologna and Torino showed that the young-adult adoptees of their sample had levels of self-esteem, social adaptation and satisfaction in the various aspects

of life that were not lower — and in some cases even higher — than those of their non-adopted peers.

2. The research

Here we present first evidence from a database of Coordinamento CARE, a network of associations of adoptive families, that in the period from 14 to 24 May has collected information from 261 parents speaking of 333 adopted adults. The research was based on a CAWI questionnaire for adoptive parents with children of at least 20 years of age. The data were randomly distributed, without statistical significance. The variables were: age, education, geographical distribution and others. The explanatory questions concerned the educational history both of parents and children from the primary school to the undergraduate and the graduate one. Overall, 57,3% of the sample completed the education process with a high-school degree, 16,6% with undergraduate or graduate degree, 27,6% non-completed the education process (Tab. 1).

TAB. 1. *Distribution of adopted students still in the educational process versus those that have completed it by a.v. and %*

	a.v.	%
Still in education	92	27,6
Educational process concluded of whom:	241	72,4
1. middle school diploma	27	11,2
2. professional school diploma	36	14,9
3. high-school diploma	138	57,3
4. undergraduate diploma	40	16,6

Source: Coordinamento CARE (2021)

Later, we analyzed the schools attended by those whom completed the educational process, 138 individuals (Tab. 2).

TAB. 2. *Distribution of adopted students that have completed the educational process in type of school by a.v. and %*

	a.v.	%
Liceo	66	47,8
Istituto Tecnico	36	26,1
Istituto Professionale	34	24,6
N.d.	2	1,4
Tot.	138	100

Source: Coordinamento CARE (2021)

The 71.1% of the young people in our sample is between 20 and 24 years old, therefore to compare data we referred to the scholastic year 2015/2016 to have a reference of the educational choices of other categories of young people, such as the Italian students, the students

born in Italy but with parents of foreign origin and the students with parents of foreign origin and born abroad (MIUR, 2017). In the aforementioned period, 49,7% of the so-called standard Italian students, 33,7% of the students born in Italy but with parents of foreign origin, 27,0% of the students with parents of foreign origin and born abroad attended a Liceo (Classical, Scientific, etc.). Only 47,8% of our sample attended the latter type of high school, 26,1% attended a Technical Institute against 31,2% of the so-called standard Italian students, 38,4% of foreign students born in Italy, 37,1% of foreign students. Lastly, 24,6% of our sample attended a professional Institute against 19,1% of the standard population, 27,9% of foreign students born in Italy and 35,9% of foreign students. The choice of the type of secondary school by the adopted students requires a better understanding since most adoptive families have a high cultural level as shown directly in our sample and by the data of the International Adoptions Commission (CAI, 2018). In 2019, the educational qualification of husbands was 39,6% high school and 51,6% undergraduate degree, while the educational qualification of wives was 31,1% high school and 60,7 % undergraduate degree (CAI, 2020). These data are not in line with the Italian average in the corresponding age group (25-64 years old) in which the undergraduate degree is the qualification of 16,8% of men and 22,4% of women (ISTAT, 2020). In this perspective, the data of our sample of young adopted people who have completed their education are critical since 10,4% concluded with a maximum qualification obtained in middle school. We further compare the scores obtained for the high-school diploma (in Italy through a state exam) by our sample with the analogous scores by Italians and foreign students in the school year 2017/2018 (the average age of our sample is 23 years old). Even though these data have no inference value, however, it is relevant to notice that adopted individuals have low scores even compared to those of foreign students. In our collective, the minimum grade, 60/100, was achieved by almost 17% of the students, while only 12,5% of the students born abroad graduated with the minimum grade. The same happens for the highest grades in the state exam, which the students adopted reach with greater difficulty than the other categories of students considered. The exit grade between 81 and 90/100 is reached by 5,1% of adopted students, by 19,8% of Italian students, 16,1% of foreign students born in Italy and by 14,7% of those born abroad.

TAB. 3. *Distribution of the final exam scores by type of school and by %*

	N.d.	60	61-70	71-80	81-90	91-99	100	Totale
Liceo	4,5	15,2	40,9	18,2	7,6	7,6	6,1	100
Istituto tecnico	8,3	22,2	36,1	27,8	2,8	-	2,8	100
Istituto professionale	2,9	14,7	47,1	29,4	2,9	-	2,9	100
Tot.	5,1	16,9	41,2	23,5	5,1	3,7	4,4	100

Source: Coordinamento CARE (2021)

Eventually, we compare the educational qualifications of the children and that of the parents (Tab. 4). We compare the minimum title and the maximum title obtained by the parents and the minimum title and the maximum title obtained by the children. The data at the moment shows that 64.3% of adoptees of our sample have a title lower than the maximum title of parents. Almost 42% of the adoptees have a title lower than the minimum title of parents.

TAB. 4. *Comparison between the education qualifications of the children and that of the parents by %*

	%
child title > maximum parents title	9,1
child title = maximum parents title	26,6
child title < maximum parents title	64,3
child title > minimum parents title	26,1
child title = minimum parents title	32,0
child title < minimum parents title	41,9

Source: Coordinamento CARE (2021)

This first analysis highlights how belonging, via adoption, to a family with positive characteristics in terms of education and social capabilities (good work, adequate social capital, etc.), does not automatically determine progressive social mobility in terms of education. Adoptive families invest hugely in the education of their children, trying to overcome the problems due to the initial hardships, however, the effects of such an investment are hard to detect if we speak of educational progression in the generations.

Conclusion

Our work is a further proof of the necessity to focus more research to understand the variables that contribute to facilitate or hinder the social integration of adoptees. Scholastic success and failure, linked to early school dropout, are particularly urgent points for all students, more so for those with multiple intersections at risk of micro-exclusions which can cause marginalization and dispersion. It is yet unclear the real extent of the difficulties of adoptees in the school systems all over the world, however, adoption is often associated with lower academic attainment and elevated levels of behavioral problems across childhood, adolescence and emerging adulthood compared with non-adopted comparison groups. School performance of adopted children should be routinely monitored. Our country is, so far, concretely pro-active. Italy is the unique country in the world addressing nationally the issue thanks to the *Linee di indirizzo per il diritto allo studio degli alunni adottati* mentioned in the Introduction. Other countries provide sometimes

programs and projects on a local level, other times nothing at all. To acquire deeper knowledge about adopted students is therefore fundamental in Italy, to guarantee the effectiveness of the national guidelines (Ferritti et al.,). What appears crucial is to better understand the impact of different and elusive factors (biographical fragmentations, being phenotypically different from parents, being phenotypically different from the social environment, having experienced severe childhood adversities, etc.). Often the situation seems complexify during secondary school when teachers and educators tend to become forgetful of the adoptive identity of such students, concentrating mostly on their performance and medical certifications (Ferritti, Guerrieri, 2020). Adolescent and young adult adopted students are nowadays internationally studied (Paniagua et al., 2021). This is due also to the presence of various meta-analyses on their mental well-being (Askeland et al., 2017). These studies tend to show, for example, that although most internationally adopted adolescents are well adjusted, adoptees as a group report higher levels of mental health problems compared with non-adopted peers. Researchers assume that this difference should be acknowledged and adequate support services should be made available. Our work shows once more that the complexity and variability of the experiences faced by people who have been adopted expose them to situations that may negatively affect self-perception and school results, despite belonging to families with a high socio-economic status should constitute an undoubted element of advantage for academic performance. Consequently, public policies should be favored to guarantee greater equity of educational opportunities to improve adoptees' educational success and relative social and economic positions.

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Teachers' Perception of Socio-Cultural Belonging in Adopted Pupils

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ABSTRACT: *In the field of scientific studies about international adoption, it has been taken in consideration the way in which the culture of the original country from where adopted children come from interacts with the culture of the adopting country. In particular, a significant importance is given to the possibility to integrate the two different cultures into a single, unifying identity, which preserves each culture's specific traits. Numerous studies underline how the perception of a bicultural heritage fosters the development of positive self-awareness a better psycho-social adaptation and reinforces the ability to face prejudice and discrimination (Benoit et al. 2015,). The socio-cultural context in which the adopted child is inserted influences his individual process of identity construction and the school environment has an important role in this complex situation. The school context, in fact, represents one of the main factors which influence the activation of psychological processes regarding identity construction and socialization in any school pupil and definitely also in the adopted ones and the influence of their teachers' opinions seems to be of great importance. The aim of this contribution is to widen the knowledge of existing studies in relation to how the school system considers the perception of socio-cultural belonging in internationally adopted children. Therefore, we have created a semi-structured interview, aimed at investigating the teachers' perception of socio-cultural belonging in adopted pupils. The sample, formed randomly, is composed by teachers of kindergarten, elementary school, middle school and high school. The participants' contributions, reported verbatim, have been qualitatively analyzed. This study is part of a wider research, whose aim is to investigate the perception of socio-cultural belonging in internationally adopted children, exploring different viewpoints, namely from the child, the adopting parents and the social context.*

KEYWORDS: *socio-cultural belonging, international adoption, bicultural identity, school context, teachers' perception*

Introduction

The Italian State has recognized, through Law n°184 in 1983, with its successive modifications in the Laws n° 476 in 1998 and n° 149 in 2001, the right of the minor to grow up and be educated within his own family.

In the event that the latter is unable to provide for the needs of the child, his right is preserved by resorting to other institutions, including adoption.

In realizing the «best interests of the child», the decision-making process must take into account «the need for a certain continuity in the child's education, as well as his ethnic, religious, cultural and linguistic origin» (art. 20 Convention on the Rights of the Child – CRC) and the minor's right to «preserve his identity, here included his nationality» (art. 8 CRC). To this end, the adoption procedure abroad is taken into consideration where it is not possible to reintegrate the child into the original family or into a family unit of the Nation of origin (Article 4 of the Hague Convention).

In light of the considerations made, international adoption is conceivable as a migration involving only the minor, dictated by conditions of necessity which cannot be fulfilled otherwise (Weil, 1984).

The attention paid to the continuity of the socio-cultural experience aroused our interest, making us reflect on the sense of belonging of the internationally adopted child, who had to leave the country of origin and interface with a new and different context.

Taking up the contribution of Thomas and Tessler (2007), cultural identity is defined as the entire set of beliefs, social behaviors, rituals, customs, traditions, values, language and institutions specific to a given culture, which are internalized through processes of socialization with the family, the school and in general with the community of belonging.

The study we have launched, of which this brief exploratory survey is part, aims at observing the reciprocal and complex influence that exists between the sense of belonging of the adopted person and the conception developed by those we believe are the main influencers: the adoptive family, the school, and the operators who follow the adoptive process, both before and after. We consider it useful to reflect on what the dissonance between the positions taken by the adoptees and those expressed by the significant figures may entail (Lee, 2003). Discordant perceptions can affect the development of the minor's sense of identity and continuity of the experience, interfering with the process of integration of the two cultures and with the development of a double belonging.

The school context is one of the first that the adoptee comes into contact with upon arrival and it is precisely from this, and in particular from the perception of the teachers, that we have chosen to start.

An initial bibliographic research showed us how studies focused on the relationship between the school and the adopted pupil had been previously conducted, and focused in particular on the pupil's learning difficulties (Palacios et al., 2010). Only some researches have been interested in cultural identity, leaving out the perceptions of teachers. Our goal is to expand knowledge about the experiences and representations of teachers as we assume they influence the development of the pupil's sense of socio-cultural belonging. To this end, we explored the

perception of teachers through a pilot study on a small sample, to understand if our hypothesis has any basis.

An examination of the literature showed us that the interaction between the culture of the country of origin and that of the host country has been taken into consideration in various studies, some of which have highlighted the importance that this process has on the development of psychosocial adaptation and self-image (Castle et al. 2011,).

A review of international studies has highlighted the prevalence of two opposing attitudes with respect to the socio-cultural belonging of internationally adopted people (Benoit et al., 2018). The approach taken by Anglo-Saxon countries (in particular the USA) tends to enhance the culture of origin and favor the development of a bicultural identity. This is considered a powerful tool for dealing with the experiences of racism and also constitutes a protective factor for the well-being and psychological adaptation of the adopted child (Lee, 2003). From this derives a varied cultural environment, in which different ethnic contributions converge (Fredrickson, 2015). On the contrary, French-speaking countries are guided by the desire to preserve their own cultural history and therefore encourage the process of assimilation to the host country. In this perspective, the maintenance of the culture of origin highlights the differences perceived by the minor, leading him to feel alien to the adoptive family (Lévy-Soussan, 2010).

In the scenario that sees these two trends opposing, we asked ourselves where Italy stands, considering the significant weight it assumes in the panorama of international adoptions, being, at least from 2009 to today, the second in the world context, after the United States, for number of entries per year and the first in the European context (data provided by the Commission for International Adoptions - CAI).

Our interest also derives from the relevance, as underlined by the extensive national and international literature, of the behavior of the adoptees in the post-adoptive period to search for their origins. The latter are deeply rooted in the search for the self and therefore basic elements in the process of identity construction. The adopted person is faced with the difficult task of maintaining a sense of continuity in his own experience, integrating within himself the profound changes that have taken place and the undeniable elements of rupture. The sense of socio-cultural belonging is one of the elements on which identity is structured and can be influenced by the consideration developed by those around him.

The investigation. Methodology

The study sample is made up of teachers recruited on a voluntary basis, who, during their professional career, have had students adopted through international adoption in the classroom. The subjects who, in addition to being teachers of adopted pupils, were also adoptive parents

were excluded from the sample, to avoid the possible influence linked to the dual role.

In total, 40 participants from schools of different types and levels were recruited, which were divided into two groups: the *infant age group*, which includes 20 kindergarten and primary school teachers, and the *adolescent age group*, which includes 20 first and second grade secondary school teachers.

The tool used is a semi-structured interview, consisting of 11 questions, and created specifically to investigate the perception of teachers with respect to the socio-cultural belonging of internationally adopted pupils.

The interviews were audio-recorded and *verbatim* transcribed, in order to keep the information in its entirety. Given the small number of participants and their voluntary recruitment, the sample does not claim to be representative of the population. The interest of the study is to explore the experience of the teachers and the representations they have built from it. Hence the choice to resort to a qualitative analysis of the collected contributions, believing that the use of exclusively quantitative methods, in addition to requiring a larger sample, would not have allowed us to explore those aspects that we wish to investigate.

Presentation and discussion of the results

The teachers who chose to participate in the study showed a keen interest in the topic discussed. Within the sample, it was possible to observe that the teachers recruited hold different teaching chairs.

With regard to the childhood group, we found an equal distribution between the teaching subjects of linguistic, mathematical and support activities. Instead, with regard to the adolescent range, we found a greater representation of the linguistic and literary sphere.

Most of the teachers (34) recalled having had, during their entire teaching career, more than one pupil adopted with international adoption, while for the rest of the sample (6) it was the first time that there were cases of adoption among the pupils.

Almost in all cases (34) the teachers were informed of the presence in their classes of adopted pupils before the beginning of the school year. Most of them (20) learned about it from the head teacher or from colleagues during organizational meetings held a few weeks before the lesson started. Some teachers (14) were informed directly by the pupils' parents; in particular, in two cases the teachers were contacted by the families, since they also held the role of referent for inclusion.

All the pupils were aware that they had been adopted: some had memories relating to the pre-adoption period, while in other cases it was the parents themselves who told them. In the majority of cases (34) it was a question of visible adoptions, i.e. the somatic characteristics of the adoptees made it possible to deduce a foreign origin. Only in a few cases

(6), the pupils presented physical connotations totally similar to those of their classmates. The 6 cases of invisible adoption are equally distributed between the childhood and adolescent range. We can say that, given the homogeneous distribution of cases, the visibility of adoption is not a factor capable of explaining the different opinions found between the teachers belonging to the two comparison groups.

With regard to the central topic of the interview, i.e. the teachers' perception of the socio-cultural belonging of the adopted pupils, we chose to ask two different questions: in the first we asked whether they considered the pupil to belong to the culture of origin, to the Italian one, or to both; in the second question we asked to indicate which cultural belonging they considered most advantageous for the pupil.

From the interviews it emerged that most (24) teachers attribute to the pupil an Italian socio-cultural belonging, a group (14) gives him a double belonging, while only a minimal part (2) considers him to belong to the culture of the country of origin.

In the attribution of socio-cultural belonging, no particular differences emerge between the perception of teachers in the childhood group and that of teachers in the adolescent group. It can be observed that the former have more frequently attributed an Italian cultural affiliation, compared to their colleagues in the adolescent range, however the difference is slight.

In indicating the answer, some teachers shared the reflection underlying the attribution made. It was therefore possible to observe that, in general, the elements that most frequently influenced perception were the age of the minor at the time of adoption and the position of the minor within the integration process. In particular, teachers of both age groups tend to consider the minor as belonging only to the Italian culture if adopted as a newborn or in early childhood. If the child was adopted in preschool or school age then the teachers most frequently attributed a double cultural belonging. The centrality attributed to age at the time of adoption has often been linked to the presence or absence of memories related to the pre-adoption period. Some teachers believe that if

the pupil has memory of the years prior to adoption then these elements, since they cannot be forgotten, should be integrated within an image of oneself that includes both belongings. On the other hand, some teachers believe that if the minor has no memory of the country of origin and his memories are linked only to Italy, socio-cultural belonging is also exclusively linked to the host country. We observed that the period prior to adoption is considered in all sense traumatic and devoid of any positive element for the minor. Although some of the teachers were influenced by stories of their experiences, the rest seem to have referred to their own imagery. The idea that the presence of memories is harmful and that the best solution for the well-being of the pupil is to forget, can eclipse the consideration that the pupil has different origins, leading to ignore the fact that enhancing the qualities of the original country can

facilitate it, mitigating the conflict and the clear separation between the period before and after the adoption.

The second aspect that the teachers stressed is related to the integration process: some teachers attribute to the pupils an Italian socio-cultural belonging because they believe that they have fully integrated and, in some cases, the link with their origins has disappeared. Other teachers consider the exclusive acquisition of Italian customs an element that can facilitate integration. This consideration is more frequent among teachers of the childhood group who, in some cases, have given higher priority to the assimilation process. In particular, some have highlighted how, given the young age of the pupils, it is good to encourage integration and then, at a later stage, recover the inheritance derived from the country of origin. It seems that some teachers consider the conservation of the original customs an obstacle to the integration process; the previously acquired cultural heritage is considered an amplifier of differences. On the other hand, it can be assumed that the possibility of preserving the original sense of belonging can represent an element of stability, in a situation characterized by significant changes. The feeling of continuity and the maintenance of this identity component can make the adoptee feel more self-confident, promoting openness to the new culture and, therefore, integration.

Regarding the reflection on what teachers believe can be more advantageous for pupils, the majority of teachers (25) consider dual socio-cultural belonging to be more advantageous. The remaining 15 attribute a greater benefit to an exclusively Italian cultural belonging. None of the teachers considered the exclusive belonging to the culture of origin more profitable for the pupil.

We have observed that the consideration of dual cultural belonging as the most advantageous grows with the transition from childhood to adolescence, with an increase of 15%: a greater number of first and second grade secondary school teachers indicated this cultural belonging as most profitable for the pupil.

The element that the teachers, of both groups, have brought to support this consideration is above all the identity component. In fact, many teachers (20) believed that developing a dual socio-cultural belonging would be more advantageous for the pupil as it would involve personal enrichment and the possibility of maintaining a relationship with the country of origin. The land of origin is considered by many teachers as an important component of the sense of identity, so they believe it is positive that the pupil maintains a bond with it. In comparing the two groups, it is observed that teachers in the adolescent age group share this consideration slightly more frequently than their colleagues in kindergarten and primary school. Instead, what most distinguishes the teachers of the two groups is the thought underlying the answer given. The teachers of the childhood group, while considering the presence of a relationship with the origins as fundamental, believe that their pupils should first integrate and complete the assimilation process and then

recover the link with the land of origin. Instead, the reflections of the teachers of the adolescence group are more focused on the theme of the adolescent crisis, in line with the many studies that place the process of building identity in adolescence. In particular, various teachers believe that the possibility of re-appropriating the culture of origin, integrating it with that of the host country, is a protective and useful factor in the moment of the adolescent identity crisis, which they consider even more profound in adoptees who are confronted with an experience of abandonment and emptiness.

The observations reported by the teachers reflect the ideas of what they consider a priority for the pupil starting from his age. The teachers of the childhood range are committed to cushioning the impact of the numerous changes to which the child has been subjected, believing that minimizing the differences can encourage inclusion. The task of recovering the link with the country of origin is postponed to a later stage, to the transition to first and second grade secondary school. On the other hand, adolescents' teachers believe that if the pupil has previously managed to develop a complete self-image, which contains his entire path, then he will have more tools to deal with the notable changes that occur at this age. Otherwise, he will have to deal with an experience of rupture and a sense of discontinuity within his own experience.

Faced with these positions, the adoptee finds himself having to do a double job: at first he is encouraged to abandon his origins to promote integration; later, he is encouraged to recover them.

The points of view expressed by the teachers are in line with what has been observed in the literature regarding the different needs of the adoptee during the growth process. Initially, the minor seems to require more material containment, being in line with the reflections conducted by teachers of the childhood group on the role played by the socio-economic factor. Subsequently, with the entry into adolescence, interest is concentrated on the search for oneself and this is confirmed by the teachers' considerations on the process of identity construction.

Among the 15 teachers who considered an Italian socio-cultural belonging to be more advantageous, most (10) used a socio-economic factor as a decision-making criterion. In this perspective, it would be more profitable for the pupil to recognize himself as belonging exclusively to the host country, characterized by more favorable economic conditions, the presence of an adoptive family who takes care of him and a more stimulating cultural environment. This consideration is more widespread among teachers of kindergarten and primary school, with a slightly higher frequency than in their colleagues in the adolescent range.

The reflections conducted by some teachers imply the presence of a negative image of the country of origin. This, in a prejudicial manner, is deemed incapable of offering positive elements to the adoptee, so much so as to indicate that a single cultural belonging rather than a double one is more profitable.

In this regard, the socio-economic well-being of the adoptive parents does not seem to predict the success of the adoption. Furthermore, it has been observed that, in some cases, families with a high sociocultural level develop higher demands on the performance of their children. The perceived excessive pressure can undermine the child's low self-esteem. Within this complex interaction, the contribution provided by teachers, who work closely with pupils and their families, can help mitigate the phenomenon or even reverse its direction.

Within this path, the teachers of our sample do not seem to aim to increase the pupil's sense of pride for their origins. The latter are valued only at a later stage, when the pupil is encouraged to regain possession of the culture of origin. On the contrary, the constant recognition of the value of the country of origin can favor the construction of a positive self-image and greater self-esteem which, in adopted minors, is usually lacking.

The study on adoption, in particular in relation to the school environment, focused on pupils' learning difficulties, but it emerged that these are frequently influenced by the consideration that the minor has of himself. The attention paid by teachers to the components that promote a strengthening of self-esteem can therefore improve both the psychosocial well-being of the pupil and the performant component linked to it.

In light of the considerations made, we can reflect on what is, within our sample, the trend assumed by the cultural pressure of our country.

From the contributions collected, it seems that teachers, in attributing socio-cultural belonging, are more in line with the approach taken in French-speaking countries. Instead, in indicating what they consider most advantageous, there is a reversal of the trend and the sharing of a concept more similar to that developed in the Anglo-Saxon countries. The school environment, explored through a qualitative study on a small sample, seems to be in a middle position with respect to this international scenario. In fact, there is an oscillation between the tendency to favor the development of a double socio-cultural belonging and the push towards a process of assimilation (Table 1).

TAB. 1. Attribution of cultural belonging and the most advantageous condition

	Socio-cultural belonging	More advantageous Socio-cultural condition
Host country (Italy)	24	15
Double cultural belonging	14	25

There is therefore a tendency in teachers to overturn their beliefs when moving from the perception of belonging to the consideration of the most advantageous condition for minors. This trend grows with adolescence, as can be expected with the appearance of the identity problems typical of this age.

The factors that most frequently affected the opinions expressed are: age at the time of adoption, the integration path, the socio-economic factor and the identity construction process. These factors, discussed above, therefore seem to underlie the observed trend change.

The latest results that emerged concern the ways in which teachers took or didn't take into account the pupil's origin in teaching and any requests made by parents.

Just over half of the teachers (23), with an equal distribution between the two groups, took into account the adoptive origin of the students in their teaching. The methods used were many and the teacher chose, considering the specific situation, what he considered most suitable. The teachers of the childhood group reported having dedicated time to deepen the pupil's country of origin, allowing him to share memories. Other teachers preferred to monitor the minor's reactions, especially when discussing topics such as personal history or family tree. Some have instead chosen to avoid discussing topics that they believed could cause the pupil displeasure. The teachers of the adolescent age group paid more attention to the learning difficulties of the pupils and their emotional reactions. In the remaining cases (17) the teachers did not take into account the origin of the minor for various reasons. Most believed there was no need, since the pupil did not present any difficulties, either behavioral or in learning. A minor part considered the linguistic difficulties deriving from foreign origin, not considering the adoption relevant in itself.

With regard to the requests made by parents to the school, it emerged that in the majority of cases (26) the family did not ask to pay attention to the origins of the child, not considering them an influential factor in the school career. In the other cases, the parents requested, in particular, to keep in mind the pupil's learning difficulties or emotional containment. The parents' questions are in line with the topics usually explored on the interaction between school and adoption' studies. However, we believe that social aspects such as self-esteem, psychosocial well-being and a sense of identity can really have effects on academic difficulties of an individual.

Successful school placement requires a culture of adoption that distances itself from simplistic and reductive concepts (Novara, Serio, 2015). Precisely to avoid recourse to distorted conceptions, it is significant to know the representations constructed by the teachers. Among these, we consider the perception of the adopted country of origin to be relevant, frequently imagined as a poor place with no potential. The devaluation of the individual's homeland interferes with the pupil's attempt to integrate the experiences that he/she lived,

increasing the gap between the period before and after the adoption. On the contrary, the recognition of origins can be a resource for the pupil. The enhancement process does not lie in the explicit exaltation of the country of origin, but in the teacher's ability to identify and modify their own representations. The positive consideration of the pupil's legacy, seen as a source of enrichment and not as an element to be forgotten, facilitates the creation of an authentic exchange environment. The adopted person interfaces with a context that welcomes his story and allows him, when and if he wishes, to share it.

The message implicitly transmitted in the interaction can positively influence the image that the adopted person constructs of the lived experience. Furthermore, it is based on the representation that the pupil has of himself and which, as evidenced by various contributions, has an impact on academic success and learning skills (Novara, Serio, 2015).

Conclusions

The conducted study, although limited, made it possible to suggest some considerations that we believe may be useful to deepen in a broader investigation.

The literature shows that the school placement of the adopted pupil has become a topic of interest and study. However, for a long time, the focus was on the performant component, leaving out other aspects influencing the well-being of the pupil. Among these, we consider the adoptee's sense of socio-cultural belonging to be relevant, considering the influence it exerts on self-image and psychosocial adaptation. The same teachers reported that they had not questioned themselves about it, also pointing out the lack of training and useful tools for managing a situation that is new to them. The feeling of loss and, at the same time, the desire to be able to derive greater enrichment from this experience has encouraged various teachers to follow refresher courses and read the specific guidelines, so as to acquire the knowledge they lacked, but which they considered necessary.

Some teachers have asked us to organize special training days. Reflecting on this proposal, we agreed that a different preparation is needed for teachers in the childhood and adolescent range. Preschool and primary school teachers often deal with the child's first school experience, placed in a totally new socio-cultural context. The work done by the teachers is aimed at facilitating integration, while implementing behaviors aimed at minimizing differences. In this phase, however, the enhancement of the adopted person's previous experience and its origins can facilitate the insertion, decreasing the split between the period before and after the adoption. The possibility of remembering the country of origin not only in light of the shortcomings, but recognizing what good it has to offer can favor the development of a double socio-cultural belonging, improve the sense of self-esteem and of self-perception.

The work begun during this phase is then continued by the teachers of the adolescent age who interface with an equally delicate period. The issues related to the identity crisis, typical of the adolescent period, can thus be addressed by enhancing the wealth deriving from the entire lived experience, without a part of it having been previously suppressed. This can facilitate the pupil because he perceives, from the school environment, a coherent and constant vision over time, particularly useful in the light of the numerous factors of change, related both to personal experience and to the growth phase.

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School-Family Co-Responsibility. Good Practices from Training Courses Promoted by an Association of Adoptive Families

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ABSTRACT: *In Italy, the «Guidelines for adopted students' right to study» (2014) focus on the needs of adoptees in school and education. Unfortunately, this tool has not yet received widespread and homogeneous application throughout the country. School placement, inclusion and the process of transition between the various levels and grades of schools, represent particularly delicate issues which require adequate support from all those involved in education (Guerrieri, Nobile, 2016). The entire process should aim to build helpful communication channels and liaison between parents and school staff in order to encourage children and teenagers to acquire a clear perception of self and promote inclusive attitudes among class members. This contribution aims to examine the issues related to the joint responsibilities of school and family (Pati, 2019), based on the experience of an adoptive families' association named AFAIV APS, that is active in promoting knowledge of adoption issues in schools through training courses held in the province of Varese. We will focus on the presentation of good practices emerging from cycles of thematic meetings for adoptive parents and from training courses addressed to teachers and educators. These initiatives are devised for the purpose of increasing understanding of adoption issues, raising awareness about the needs of students who have been adopted and encouraging the discovery of tools able to be adapted to individual requirements. The complexity of adoption raises questions related to educational issues. Adoption requires unprecedented skills in understanding cultures (Favaro, 2010), on the horizon of an educating community called to build good relationships and cooperative networks between school and family. From a pedagogical perspective, we aim to try to highlight some useful dimensions for the development of family resilience (Walsh, 2008) and empowerment (Bacharach, 1993).*

KEYWORDS: *Adoption, parents and teachers' training, family-school co-responsibility, family-school participation, empowerment.*

Introduction

Article 30 of the Italian Constitution assigns parents with the primary responsibility for their children's education. Each family, within its household, develops its own educational culture which must not be underestimated by the school (Pati, 2011).

Shared participation between school staff and parents began when families became aware of the importance of their contribution within schools and educational bodies in the promotion of the well-being of future generations.

In Italy, as from the seventies, researchers have identified the development of relationships between schools and families (Pati, 2019). The first phase known as *formal participation* (Enabling Act n. 477 30 July 1973; 1974 Delegated decrees) was followed by an intermediate so-called *cooperation* phase (Law n.30/2000 and Law n. 53/2003) after which a much wider perspective was reached for the implementation of *co-responsibility* (Presidential Decree n.235/2007, incorporated in the Ministry of Education's Circular Note dated 31st July 2008, «educational agreement on co-responsibility»).

Although the necessity of assuming school-family co-responsibility has been made evident by the above-mentioned laws, this goal has yet to be reached in daily practice; there is still much progress to be pursued within schools.

Such joint responsibility cannot be imposed from above or offered as a standardized approach that is valid for all schools. Moreover, acknowledgement of the importance of promoting educational plans that are shared both by parents and teachers is crucial, since these processes generate benefits in terms of growth for the new generations, for local communities and, consequently, for the entire society.

It is, therefore, essential to direct efforts to join forces, discuss and improve communication between the various educational bodies (Pati, 2011) with a view to achieving strong educational *partnerships* (Mulè, 2014). This requires a varied and complex process that should aim to build educating communities, in which there is constant synergy between parents and teachers in relation to target objectives, as well as acknowledgement of the roles and abilities of the various individuals involved.

Speaking of joint educational responsibility also implies considering the various family cultures that are encountered and focusing on the importance of the diverse family conditions. This contribution aims to analyse various aspects related to adoption and the specific educational challenges to be met in terms of co-responsibility.

1. Joint responsibility of parents and teachers in adoption: the role of adoptive family associations

In the adoption panorama, an important role in teacher-parent joint responsibility is played both by individual adoptive families as well as by family associations.

A tangible demonstration of such role is represented by the «*Guidelines for adopted students' right to study*» (2014) that are the result of valuable *advocacy* activity carried out by adoptive families'

associations, initially within the individual provincial areas in which they operated and starting from 2009 through the Italian national network «Coordinamento CARE».

The «Guidelines» focus on the specific needs of students who have been adopted. First school placement as well as transition between the various school levels (primary, secondary, high school), represent particularly delicate phases for students who have a story of adoption, which require appropriate and specifically dedicated educational support (Guerrieri, Nobile, 2016).

Students who have been adopted are faced with enormous challenges: search for continuity, despite the various separations they have lived through (i.e.: *interrupted relationships with birth parents and/or other caregivers, separation from places and emotional and sensory experiences*). A favourable start in the early phases of school placement and development of school activity suited to their needs, together with the opportunity of being able to attend a truly inclusive environment, are essential ingredients in the process towards the growth of such students.

Education places great attention on the issues related to *change* and it cannot, therefore, remain unresponsive to such challenges.

Although school is generally valuable in promoting education and growth, it could become a place in which critical issues and emotional distress can occur, not only because each growth process implies efforts and personal involvement, but also because in many cases the specific issues related to a prior story of neglect and suffering are not understood by teachers and parents with the sensitivity, attention and competence required to manage such issues in class.

Each child or teenager, whatever his life-story or condition, requires a welcoming environment in which to learn, be educated and start social interaction. Learning is the result of mediation between «sensory-perceptive, attachment-relational and cognitive elements» (Freddi, 2015, 37). Moreover, due to the specific issues regarding the past life and adverse childhood experiences, it is crucial to consider the adoptees' history and conditions. It is, therefore, necessary to provide support for the educational development of students by building relational networks and integrated programmes that involve education authorities and adult caregivers.

Consequently, the question is: how can we develop empathy and understanding, encourage support and closeness in the adults, parents, and teachers, involved in education?

2. Joint responsibility of parents and teachers in relation to families who have adopted: the role of adoptive family associations

Adoptive families' associations are sensitive to school issues and the possibility of building constructive communication with school staff and educational authorities in order to promote the well-being of *all* children,

increase inclusion, and favour individualized instruction. This is because school and family constitute the two primary educational agencies and «the two most influential environmental contexts on a child's development» (Berryhill, Vennun, 2015).

Such training action aims to provide students and their families with methods adjusted to needs and to accompany the local community in building synergies and networks between schools and families. Activity in increasing the knowledge of adoption issues which should not, therefore, just be limited to promoting a better understanding of adoption and good practices dedicated to these students but should also provide an excellent opportunity to include *all* students, each with their individual uniqueness and personal background history, in a way that respects their personal experience and offers useful stimulation for the re-elaboration of multiple life experiences.

From an educational viewpoint this contribution aims to examine the issues related to joint parent-teacher responsibility (Pati, 2019), starting from the experience of an association of adoptive families, named Afaiv, that has actively cooperated with schools and educational authorities in the Province of Varese over the past 20 years¹, with the belief that training can be the first step towards the creation of co-responsibility.

Over the years, Afaiv has responded to the demands of adoptive families related to school placement and educational issues and has witnessed the urgent need to concentrate attention on adoption and what it entails during the entire educational process, from placement to academic performance. For this purpose, the Association has planned and carried out training activities for pupils, parents, and teachers within schools and in other educational contexts; it has formed an internal discussion group of parents, some of whom are teachers, in order to focus on adoption and related school issues; volunteers have given contributions to Coordinamento CARE's *advocacy* activities with national and regional educational authorities. Locally these initiatives took place in cooperation with other families' associations, the provincial educational authorities, and the public adoption social services authorities. Many of the projects implemented in schools were made possible through co-funding obtained in accordance with the provisions of provincial and regional laws².

¹ Afaiv is an active member and co-founder of the Italian national network Coordinamento CARE. The association presently has about one hundred families who are active participating members and cooperates with local authorities for the implementation of integrated activities dedicated to adoptive families.

² We refer to Varese Provincial Law 28/96 and Lombardy Regional Law 23/99. In 2019-2021 activities were carried out thanks to co-funding made available by the Lombardy Regional authorities through funds granted to regions by the Ministry of Labour and Social Policies.

In Tab. 1 and 2 we can see the training activities carried out by Afaiv on the topic of the relationship between school and adoption. We will not examine the single projects which are diverse, but we will focus on some elements of interest in relation to the subject matter of this contribution.

TAB. 1. *Training Courses on Adoption and school education promoted by Afaiv (2002-2014)*

Year	Training course title	In cooperation with	Number of participants
2002/2003	School and Adoption	Primary, secondary and high schools- province of Varese	36 Students 36 teachers 30 parents
2003/2004	The value of diversity and promotion of wellbeing	Primary, secondary and high schools- province of Varese	183 students 13 teachers Afaiv volunteers
2005/2006	Promotion of wellbeing in school	Primary and secondary schools- province of Varese	210 students 20 teachers 16 parents
2006/2007	Hello teacher, good morning professor! Activities aimed at promoting wellbeing in schools	Primary and secondary schools – province of Varese	95 students 12 teachers 11 parents
2007/2008	All in! None left behind! From actions of prevention to academic success	Primary and secondary schools- province of Varese	105 students 3 teachers 32 parents
2009/2010	Learning is so difficult!	Secondary schools in the province of Varese in partnership with adoptive parents' association <i>Petali dal Mondo</i> (Va)	82 students 61 teachers 30 parents
2014	Adopted students: joint teacher and parent training for the development of educational adoption-related skills	Parent-Teacher training, part of the project « <i>Adoption: a support network</i> » in partnership with the adoption agency <i>Fond. Nidoli, Petali dal Mondo</i> (Va), public Adoption Services Staff -province of Varese	8 teachers 25 parents

Source: Afaiv files

Since the Association was founded in 1999, substantial efforts have been dedicated to training activities aimed at dealing with diversity issues as tools having significant positive educational potential. The focus ranges from post-adoption interventions to the promotion of well-being and prevention of distress in children and teens in schools. As can be seen, training was later aimed at reaching parents and teachers at all school and levels, particularly primary and secondary schools. The pervasiveness of the projects made it possible to have an impact on

educational culture. However, the data show that the number of teachers involved is small in relation to the provincial territory involved.

TAB. 2. *Training Courses on Adoption and school education promoted by Afaiv (2015-2021)*

Year	Training course title	In cooperation with	Number of participants
2015	School placement and education of adopted students – Presentation of the «Guidelines for the promotion of the educational rights of adopted students»	Varese Provincial School Authority. Three meetings.	150 teachers 20 parents
2016	Guidelines for the promotion of the educational rights of adopted students – Application in daily teaching practice	Varese Provincial School Authority. Three meetings.	80 teachers Afaiv Volunteers
2017	Stories of diversity and promotion of inclusion in schools	Varese Provincial School Authority – secondary school	101 teachers 16 parents
2019	Preadolescence and Adolescence: growing up, values, critical issues and change. Speaking of adoption in schools.	Varese Provincial School Authority – secondary school	51 teachers 6 parents
2019	Promoting inclusion and wellbeing of adoptees in school settings. Training for parents with children aged 0-10 years.	Genitori Si Diventa ODV (Monza-Brianza). Three meetings organized as part of the project « <i>Family Empowerment – networking together</i> ».	23 parents
2020	Promoting inclusion and wellbeing of adoptees in secondary schools. Parent training – online event	Genitori Si Diventa ODV (Monza-Brianza), as part of the project « <i>Family Empowerment – networking together</i> ».	25 parents
2021	Adolescents at school. A time of connection and conflict – online event	Genitori Si Diventa ODV, (Monza-Brianza), in cooperation with Varese and Monza-Brianza Provincial School Authorities and promoted by the Lombardy Regional School Authority. Three meetings organized within the « <i>Family Empowerment – networking together</i> ».	101 teachers 4 adoption professionals 24 parents
2021	Intercountry Adoption: academic development, language, and education – online event	Non-profit adoptive parents' organizations in Lombardy (Genitori si Diventa, Le Radici e le Ali, Polaris, Il Nuovo Nido, Alga, Genitori di Cuore and Raccontiamo l'Adozione).	13 teachers 4 adoption professionals 44 parents 23 prospective

		Organized within the «Adoption Network» project.	adoptive parents
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Source: Afaiv files

Initially, Afaiv's activities were dedicated to projects that covered the entire school population of individual schools: students, teachers, and parents (*in accordance with the provisions set out by the laws that granted the funds and based on funding consistency*). The themes related to well-being in school were highlighted, giving space to emotions together with the cognitive dimensions and the group as a learning facilitator. A preventive perspective was identified and, where there were clear difficulties, the approach aimed to enhance the resources and potential to come.

Since 2015, the main activities have been concentrated in promoting the knowledge of the contents of the «Guidelines» and their application in daily teaching practice with regard to students who have been adopted.

Special attention was and is still being dedicated to parents, to increase awareness of the importance of establishing fruitful communication and synergies with school staff and to supervise the schooling of their children, from an early age.

More recently, specific actions have been dedicated to secondary schools, because such need was strongly expressed by members of the association and in view of the peculiarities involving pre-adolescent and adolescent students who have a story of adoption.

The involvement of parents and teachers within the same training courses could constitute a first step for the preparation of joint projects and the start-up of effective co-planning and co-responsibility between school and family.

Some key issues regarding training opportunities and good practices in training proposed by Afaiv are illustrated below.

2.1 Teachers' training courses

The training courses had the objective of illustrating the complexity of adoption and stimulating understanding regarding educational and developmental needs of adopted children.

It is important to encourage teachers to have a welcoming and inclusive approach towards students who require to be treated with understanding and empathy, as well as designing useful teaching strategies. Teachers are required to focus not on performance or the search for competitiveness, but on the transversal skills already possessed by students.

In relation to teachers' skills, it is necessary to adjust teaching mediation of subject contents, respecting elements of each student's background story (Alloero and al., 1991; Guerrieri, Odorisio, 2003). For this purpose, the good practices consolidated over time summon school staff to handle the issues related to storytelling and identity with great care and to do

this the knowledge and contribution that can be given by parents is valuable (Guerrieri, Nobile, 2016).

Schools, therefore, are responsible for the introduction of joint parent-teacher responsibility procedures by planning and agreeing together educational teaching processes. Careful observation of the individual situations of students and their families can allow us to offer truly inclusive approaches in which everyone can feel welcomed and find encouragement in the process of enrichment and humanization towards which each person is called.

With respect to teacher training, proposals able to induce teachers to handle relationships with parents are of extreme importance, (Addi-Racah and Ariv-Elyashiv, 2008; Berryhill, Vennun, 2015), since they can nurture the capacity to listen, to trust in one another (Mulè, 2014), to share partnership thus leading to joint construction of educational networks (Dusi, 2014).

The same skills must be applied in relationships with individual students and management of the class group to create a positive class environment in which it is possible to experience processes of welcoming attitudes, mediation, and cooperation (Novara, Regogliosi, 2007).

The complexity of the framework illustrated, clearly indicates that responsibility for teacher training cannot be attributed only to adoptive families' associations (the so-called «*third sector* organizations»). The actions carried out on these topics by the Italian Intercountry Adoption Authority, CAI, (2020), are important in this regard³.

It is also important to implement the Guidelines in daily practice, with the help of a teacher trained and competent in adoption issues available in each school, whose key role is «contact person» for school staff and parents, and to apply the operative procedures indicated for placement and monitoring of students, especially those who have been adopted recently.

It is essential to pay attention to the quality of teacher-parent communication and to create networks between teachers, parents, educational services, and other professionals involved in adoption.

2.2 Training courses for Parents

«Improving the level of parental involvement is often a priority on the quality agenda of schools» (Oostdam, Hooge, 2013). However, even today participation in many cases is considered only in a formal way or through actions that concern contexts external to compulsory school time.

Researchers agree that parents' involvement in their child's academical activities is a promotional factor for their development (Senechal, LeFevre, 2002) and for the growth of well-being, motivation and self-regulation (Gonzalez-DeHass et al., 2005), as well as their

³ Cfr. <http://www.commissioneadozioni.it/formazione-cai-idi-2020/> (Accessed on 30.06.2021)

learning outcomes (Harris, Goodall, 2007 and 2008). This can take place outside the school context (i.e., talking with children about school, helping them in school matters or homework), but also actively participating in school activities (i.e., school meetings, parent and teacher conferences, volunteering at school; Pomerantz et al., 2007), and in the child's educational learning process at school (Crozier, 2005; Evangelou, 2008).

In adoption, it is more urgent than in other cases to monitor the schooling of one's children. Adoptive parents must acquire awareness regarding issues that inevitably impair or slow down the educational development of the child. They are also required to examine their expectations related to child's school performance (Biagioli, 2007) and gain a different view of the child and his or her growth needs.

Certain adoptive parents, who are members of Afaiv, declared that their worries related to school issues tend to increase as their children grow older. In primary school education it is possible to find adults and companions willing to consider the child's wellbeing from a global viewpoint and to understand the prior life experience of students who have been adopted and related implications in learning processes, but the transition to secondary school leads to more critical situations. Families perceive the difficulty of building an educational liaison with teaching staff and the evolutionary tasks of adolescence are intertwined with identity issues. A mother, speaking of her son, comments:

We have some worries about school, not so much about which one to choose, but about the environment our child will find; whether he is mature enough to cope with the situations he will encounter or that will or could affect him. More than anything our worries regard his development and that he may find his place in the world.

Attention to transition phases and critical issues encountered should be given priority in order ensure that the support received by the student is aimed at maintaining self-identity intact.

Schools represent a challenge for adoptive families, for the greater part connected with learning processes that generate feelings of «anger, incapacity and frustration» in students. A further comment referred to the fact that «Many parents have difficulties in relating with their children because of learning objectives».

For this purpose, these cognitive/emotional elements are always included in adoptive parent training promoted by adoptive families' associations, such as Afaiv, to stimulate the critical issues that they may have to face.

Parents are called on to keep a close eye on their children's ongoing educational processes, they should acknowledge their own skills in adoption issues and become competent advocates in parent-teacher relations regarding their children. At the same time, school authorities oversee re-discovering the substantial competence possessed by parents as well as involving them in positive communications and relationships.

In parent-teacher relations it is necessary to go beyond cultural barriers that in the US are indicated as «*school barriers*» (Graue, Brown, 2003). The educational approaches applied by families and those implemented in schools should not be seen as counterparts but should be viewed as joint constructive actions that are mutually beneficial for both.

3. Towards a joint responsibility between school and family

From a pedagogical perspective, we aim to highlight some useful dimensions for the development of participation in planning and joint responsibility between schools and adoptive families.

As Favaro said, adoption requires unprecedented skills in understanding cultures and inclusion and management of diversity as an opportunity (2012). For this reason, inclusive actions must be carefully planned and implemented within families, communities and social environments (Santerini, 2012). This can mean the promotion of genuine intercultural paths, where the encounter and exchange between different cultures can take place, understood not only in a geographical and international sense, but also considering the families' and parents' different educational cultures.

It is urgent to promote joint responsibility able to steer towards new frontiers and beyond, first among all, shared programmes for implementation of integrated plans that acknowledge the role and tasks of each person involved. Envisaging forms of action that empower families implies acknowledgement of each member in the family system as an expert of his/her own life and background, able to induce change (Bacharach, 1993).

Empowerment increases the capacity to analyse situations, discover resources, activate independent responsibility, transform process handling, and manage change. This can mean starting processes that solicit family resilience (Walsh, 1998), to rediscover the potential possessed, despite the critical situation experienced.

The model achieved will promote, on the one hand, internal representation of a positive result (Rotter, 1966) giving value to the person and, on the other hand, encourage co-responsibility between families and professionals (Bouchard, 1998). The challenge that arises becomes that of increasingly participatory planning between school and family, urging the offer of spaces for meeting and discussion and the implementation of good practices of co-responsibility.

Family associations encourage parents to re-discover the leadership they are called on to exert and to acknowledge the valuable contribution they give in the resolution of problems affecting communities. In this way, the family system is increasingly emerging as a «centre of full humanization and a primary source of personal initiative, social collaboration, civil responsibility» (Favaro, 2012, 85). It is, therefore, urgent to confide in the promotion of training courses in which to

encourage exchange and discussion between parents and teachers. This could represent a first step for the start of integrated and joint educational planning. This process turns out to be an articulated path which can benefit from the presence of a pedagogist who acts as a mediator in educational joint planning between schools and families. The ultimate purpose of co-responsibility becomes the activation of paths that aim to promote the well-being of each single child as well as that of the whole class and thus strengthens the entire local community.

Conclusion

Based on the considerations made in this paper, diffusion of accurate and truthful adoption culture able to consider diversity and adoptive families as values, will allow all to experience multicultural environments in which global and transversal cultures can travel around the planet and meet, each with their own personal and subjective characteristics that belong to the identity of individual families (Ouellette et al., 1999). This fits within a wider plan that characterizes sustainable opportunities and new forms of cohesion within the sphere of an educating community (Pati, 2014), that is called on to have at heart the multicultural variability of identity and the promotion of truly inclusive opportunities.

It is, therefore, a question of providing paths for sharing educational responsibilities between schools and families, protecting the skills, rights and duties of the members concerned. Creating opportunities for parents and teachers to work together can allow for a better mutual understanding and the overcoming of those cultural barriers that prevent fruitful appreciation of each other.

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Old Habits Die Hard? School Guidance Interventions and the Persistence of Inequalities

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ABSTRACT: *Educational inequalities are a feature of all modern societies. In addition to differences in performances, tracked school systems are characterised by social inequalities in path choices. In these contexts, school guidance can play a role in shaping inequalities, by reducing the information gap and encouraging students to deeply reflect about their interests and aptitudes. The aim of this paper is to investigate that role. We evaluate the effect of a guidance intervention implemented in 2018 and delivered to 7th-8th grades in several schools of Turin, Italy. We apply two complementary research approaches. We assess the causal impact of the project with a counterfactual approach, employing a difference-in-differences design and using administrative data on school enrolment linked with data on cognitive abilities, aptitudes and interests. We also analyze the implementation of the project through large non-participatory observation and through interviews to key actors. We show that the impact of the project on inequalities was very small and we highlight several factors contributing to this result, some of which intervene during the implementation of the intervention itself, and other right after the intervention and before secondary school enrolment. The results of this study highlight the need of integrate a reflection on choice inequalities into counsellors' training and, more generally, into the national guidelines on school guidance.*

KEYWORDS: *Educational inequality, track choice, school guidance, impact evaluation, implementation analysis*

Introduction

Social inequalities in educational attainment are an inherent feature of modern societies. However, the degree to which individual educational outcomes are affected by socio-economic status (SES) varies across institutional contexts (Shavit, Blossfeld, 1993; Erikson, Jonsson, 1996; Breen et al., 2009, Borgna, Contini, 2014). International comparisons indicate that a crucial institutional feature is the way students are

channelled into distinct educational pathways during secondary school. Systems that track students early on and where the pathways are more rigidly separated, like the German, Dutch and Italian ones, are associated with higher degrees of inequality in educational achievement (Hanushek, Wößmann, 2006) and attainment (Jackson, 2013), compared to systems where secondary schooling is more comprehensive, like the Scandinavian ones.

As clearly shown by a rich body of sociological research, children from privileged social backgrounds tend to perform better at school and to hold higher educational aspirations. Higher aspirations can be explained by the cultural reproduction theory (Bourdieu, 1973), according to which students unconsciously adapt their aspirations to what their parents, friends, and the broader society deem «appropriate» for them, which in turn is defined by the realm of the possible. An alternative explanation for the social divide in educational aspirations is offered by the rational action theory (Boudon, 1974; Breen, Goldthorpe, 1997). In this perspective, for low-SES families, technical and vocational education are often perceived as a safer bet to prevent the risk of school failure and consequent social demotion. Yet another explanation refers to the information gap: while advantaged families usually have the necessary knowledge and skills to navigate the school system, low-educated parents are much less equipped to help their children make informed choices. Finally, the social psychology literature highlights the importance of psychological attributes associated to higher aspirations that are more common among socially privileged groups (Ng-Knight, Schoon, 2017).

Although largely overlooked in sociological research, school guidance may play a role in shaping inequalities in school choices, particularly in tracked systems where choice is completely free – as the Italian one. School guidance can be defined as an ensemble of structured activities run by professionals other than the teaching staff and aimed at improving the match between the students and the educational pathways they will follow. It may range from individualized counselling to standardized group activities. Generally, the ultimate goal of school guidance is to prevent early school leaving and failure, not to reduce social inequalities in education.

Nonetheless, there are several reasons for which we can expect school guidance interventions to be potentially effective in reducing social inequalities in educational aspirations and choices. By providing accurate information on the costs, contents, and opportunities associated to the different school tracks, guidance programs could reduce knowledge gaps on the intricacies of the school system, and as such be especially beneficial for underprivileged children. Effective school guidance might also bring individual students to reflect more thoroughly on their personal attitudes and interests, detaching their decision-making from the social influence of parents and peers, and possibly making

underprivileged students more confident about their abilities and probabilities of success.

For the Italian context, Carlana et al., (2018) and Barone et al., (2018) have assessed the impact of local school guidance programs targeted at disadvantaged groups. Adopting an experimental research design, both contributions reach similar conclusions, finding that targeted interventions can be effective in fostering more ambitious school choices among well-performing children from disadvantaged social backgrounds, thereby reducing inequalities.

Differently from such previous studies, we focus on a local but universal – i.e., not directed to specific groups of students – school guidance program, which was not explicitly aimed at reducing inequality but rather at improving the match between each student and the chosen track. Our case study is an intervention conducted in 2019 in the municipality of Turin, a large city in North-Western Italy. Carried out at the class level, the program was structured in four two-hour sessions in which children were involved in activities aimed at acquiring better knowledge of the available school tracks and related job market opportunities and increasing self-awareness on their own aptitudes and interests.

In order to assess the potential of this kind of interventions in decreasing choice inequalities, we adopt a fully integrated qualitative and quantitative mixed-method research design, based on two pillars: (i) a quantitative impact evaluation, aimed at estimating the causal effects generated by the program; (ii) an implementation analysis aimed at gaining an in-depth understanding of the content of the program and revealing the mechanisms through which inequalities are tackled.

The Italian school system and our case study

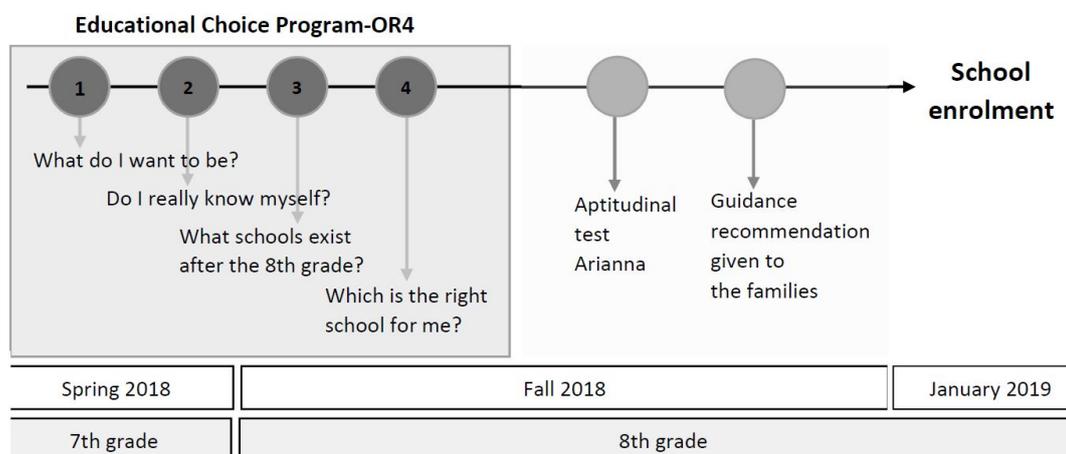
In the Italian system, students choose at age 14 between a variety of upper secondary educational programs, broadly classified into four tracks: (a) traditional lyceums, representing the most academically oriented options (b) other lyceums (c) technical schools, combining general and vocational education (d) vocational schools, focused on a wide range of specific low skilled profession and providing basic general education. Students can also choose to attend (e) three-year vocational training programs delivered by regional authorities. These different tracks are generally associated with different prestige levels (Pitzalis, 2012; Romito, 2016). Moreover, although all upper secondary diplomas formally allow access to university, transition rates to tertiary education and completion probabilities are much higher for students from lyceums as compared to technical and even more to vocational schools (Contini, Salza, 2020). The choice of the secondary track, then, is a decisive moment for students' future.

The choice of the upper-secondary track is made during the last year of the lower-secondary school. Families have complete leeway on the school choice. The teacher-body delivers a non binding recommendation, based on the judgment of the child's academic potential, although not strictly linked to performance standards. Specific guidance programs can sometimes be offered to the students, but their implementation depends on each school and on the local authorities, as school guidance is largely unstructured at the national level (Bonica, Olagnero, 2011; Argentin et al., 2017).

Our case study was the Educational Choice Program, also called Or4, a structured intervention which was implemented in the municipality of Turin in the academic year 2018-2019. It was a not targeted program, which means that it was addressed to all the kinds of students and it was implemented at the class level. The intervention was delivered by professionals belonging to a consortium of vocational training agencies and local NGOs working with youth. The program was implemented at the classroom level and involved the student bodies of 24 middle schools located in Torino, amounting to approximately 40% of the total cohort attending grade 8 in school year 2018/19.

The time schedule of the intervention is summarized in Fig. 1. The program consisted of four two-hour meetings. Three meetings were designed to help students reflect on their aptitudes and interests and one was meant to give an overview of the available schooling options. During this path, children were encouraged to synthesize their thoughts and come up with a hypothetical school choice plan.

FIG. 1. *Timeline of the school guidance intervention*



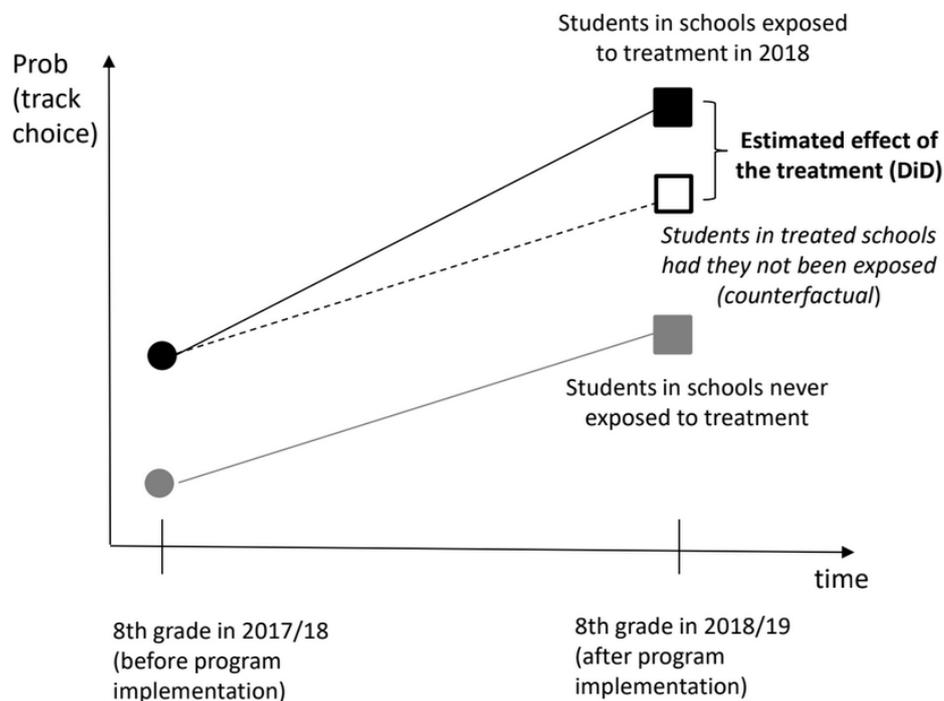
Following this walk-through in the classrooms, pupils sat the aptitude test administered by COSP (Arianna test), just like the children who had not participated in the Educational Choice Program-OR4. Test results and stated intentions were then shared by the COSP staff with the class head-teacher, who jointly delivered a non-binding school recommendation. This was the last step before school enrollment.

2. Impact evaluation

In this section we analyze the impact of the Educational Choice Program-OR4 on children's track choices.

We apply a difference-in-differences (DiD) research design (Fig. 2). This strategy consists in comparing the outcomes of interest—in our case, track choices—of students belonging to two different groups: those attending the schools exposed to the intervention in the academic year 2018/19 («treated» group) and those attending the schools never exposed to the intervention («control» group). More specifically, we analyze the outcomes of these two groups for the cohort of students who were in eighth grade when the intervention was implemented (2018/19) and for the previous cohort (2017/18), simulating then a «pre-post treatment»: if there is a difference in the time trend between the treated and non-treated groups, there is evidence that the Educational Choice Program had an effect.

FIG. 2. *Difference-in-differences strategy*



To identify the average treatment effect, we estimate the following logit model:

$$\ln \left(\frac{P(Y_{ist} = 1)}{1 - P(Y_{ist} = 1)} \right) = \alpha_s + \beta x_{is} + \delta t + \gamma_1 T * t$$

where Y_{ist} is the binary variable representing school choices of individual i , in school s , and cohort t (0=2017/18 cohort, 1=2018/19 cohort). Our control variables are: gender (0: male; 1: female), nationality (0: Italian; 1: foreign), parental education (categorical variable indicating the highest education attained by either parent: tertiary, upper-secondary, lower-

secondary, missing); parental social class (categorical variable indicating the highest occupational class of either parent: low, medium, high, missing), grade repetition (0: never repeated; 1: repeated at least one year); cognitive test scores (5 continuous variables measuring students' skills in logical, abstract, linguistic, spatial, and strategic thinking); time of Arianna testing (0: Arianna test in the spring of 7th grade; Arianna test in the fall of 8th grade); and lower-secondary school fixed-effects. The parameter of main interest is the coefficient of the interaction term γ_1 , capturing the extent to which the time trend over cohorts varies between treated ($T=1$) and control schools ($T=0$).

After estimating the average treatment effects, we focus on the analysis of heterogeneous effects between students with different socio-demographic characteristics. The key issue is whether the intervention leads to an increase in the probability of making more ambitious choices for the less advantaged groups relative to the more privileged ones.

Table 1 presents the estimated effect of the project in reducing school inequalities, which means in promoting more ambitious choices among students from underprivileged groups. Each column corresponds to a model using a different binary dependent variable for defining the ambitious choices: from the narrowest definition – only traditional lyceums versus all the other tracks – to the more generous definition – all lyceums and technical schools versus vocational schools.

TAB. 1. *Effect of the program on the probability to enroll in different school types (AME of logit models)*

		<i>Traditional lyceums vs others</i>	<i>Any lyceum vs others</i>	<i>Lyceums or technical schools vs others</i>
Overall		0.002 (0.901)	0.002 (0.910)	0.001 (0.947)
<i>By gender</i>	Males	-0.012 (0.599)	-0.007 (0.748)	0.023 (0.246)
	Females	0.022 (0.380)	0.018 (0.444)	-0.021 (0.313)
<i>By parental education</i>	Low	-0.026 (0.163)	-0.014 (0.511)	0.003 (0.898)
	High	0.058* (0.046)	0.028 (0.218)	-0.011 (0.434)
<i>By nationality</i>	<i>Italian</i>	<i>0.007</i> <i>(0.718)</i>	<i>0.002</i> <i>(0.928)</i>	<i>-0.011</i> <i>(0.485)</i>
	<i>Foreign</i>	<i>0.001</i> <i>(0.984)</i>	<i>0.012</i> <i>(0.785)</i>	<i>0.066</i> <i>(0.078)</i>

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Overall, even when controlling for a wide array of ability measures, we find basically null effects of the school guidance program on track choices. For all three dependent variables, the average causal effect of

the intervention is close to zero and not statistically significant. We hardly find any evidence of heterogeneous effects either. There are no notable differences between girls and boys. The picture related to parental education is somewhat more blurred, as the stratified analysis delivers a positive effect of the program for students with highly educated parents (at least one parent with university degree) on the probability to choose a traditional lyceum, although this result is not robust to alternative model specifications¹. Similarly, we find a positive effect on the probability to choose a non-vocational track for foreign-national students, but this is not significant and it is not observed in alternative specifications of the model.

We can conclude that, contrary to our hypothesis, we basically did not observe any effect of the guidance program on reducing inequalities. How can we explain this result? The qualitative part of the research gives us some important insights to explain why, in the end, the program was not able to tackle differentials across social groups.

3. The implementation analysis

To be able to understand the results of the impact evaluation, and to gain a better understanding of how the meetings were managed in practice, we conducted a non-participatory observation of all the phases of the intervention. Ten classes belonging to as many schools were observed, selected within the entire municipality territory. The schools were chosen to ensure sufficient heterogeneity in terms of social composition and average ability of the student body.

At the end of the interventions, we also conducted few semi-structured interviews with privileged witnesses: teachers in charge of school guidance, families, and professionals who held the Educational Choice Program in the classroom. The interviews were aimed at highlighting the role of the different actors in the project and their points of view on the school guidance process.

Two broad explanations for the incapacity of the program to decrease inequalities were highlighted by the qualitative analysis: a first paragraph refers to the implementation of the Educational Choice Program itself, while a second paragraph discusses the role played by the pre-existing context in which the intervention was implemented.

¹ We find high instability for the results of the highly educated parents. In the robustness checks we even find a *negative* effect of the intervention on the probability of enrolling in lyceums or technical track. Overall, the null effect result is prevalent, even in models where we allow for gender heterogeneity.

3.1. Observation of the Educational Choice Program Language as an obstacle

A first element that emerged during the observation was that the path carried out in the classrooms was difficult to follow in a productive way for students with poor linguistic skills. For some students, especially for those of foreign origin with little command of Italian, the language used in the materials was too complex. In these classes, we observe that the absence of linguistic mediators between counsellors and students, and of materials in other languages posed a serious challenge.

To remedy these difficulties, it was not uncommon for counsellors to ask students of foreign origin with a good level of Italian to informally act as interpreters for their classmates with whom they shared the mother tongue. These children were entrusted with a mediating role, with the risk of inaccurate transmission of information. In addition, some of them experienced the mediation role with discontent. This attitude, common among children of foreign origin, can be brought back to the desire of not being identified as «other», and of assimilation with the dominant group (Ricucci, 2010).

Guidance to a trade

Counsellor: «[...] you choose a school in order to choose a profession. School is a training ground for that profession»

From the first meeting, the orientation program opened with a presentation of seven occupational areas meant to cover the range of possible trades. Children were then asked to fill out a form asking to indicate the degree of interest in a set of 70 different activities related to trades. The entire course seemed geared toward choosing a profession rather than a school path. This probably reflected the aim to get kids to think about themselves in the long term, but it also contributed to giving particular emphasis to vocational programs – easily associated with a trade – rather than more academic oriented school types. More generally, this attitude insisted on the instrumental value rather than the intrinsic value of education, which is also typical of vocational education.

In several schools, professionals devoted more room to the presentation of short vocational programs rather than other school types, even though on average in Italy less than 1 in 5 students choose five-year vocational education and less than 1 in 10 choose regional vocational training (Azzolini et al., 2019). This choice could be related to the affiliation of the professionals to vocational training agencies, as it was mainly these types of agencies that conducted the Education Choice program. The focus on vocational programs tends to project on individuals a stereotypical idea of who is «fit» for going to lyceums and who is not and might have represented for many students of disadvantaged backgrounds a missed opportunity to being stimulated to think about more ambitious study paths.

Objective skills and innate characteristics: the lyceum «bogeyman»

Counsellor: «You should have all 8 and 9 marks (out of 10) to go to lyceums». [...] The girl asked that if she were to choose to do bakery, then could she possibly go to university to change jobs afterwards, study something else. The counsellor told her yes. [...] She told her, however, «(If I were you) I would not envision myself going to university because I do not think that right now the conditions are met for you to going to university». Girl: «Yes, of course, but actually I said that I would not be able to do it.»

One of the forms used during the Educational Choice Program asked to indicate the grades students had received in different subjects in the final 7th grade report card. The counsellors often emphasized the importance of being guided by such «objective» indicators of competence. Besides neglecting the importance of other abilities like soft skills that are not captured by the grades, the impression was that much too emphasis was put on grades, conveying a model of immutable student: school performance displayed in a particular moment of the school career (here, 7th grade) is considered representative of the student's future potential, fostering a crystallized image of the student, with no or little possibility of improvement. In one of the meetings, a professional even described pupils' abilities as being «determined by their DNA» and therefore not capable of substantial change.

Focusing on grades can be detrimental to disadvantaged students, also because there is evidence that, other things being equal, teachers tend to give them lower grades (e.g. Malouff, Thorsteinsson, 2016; Triventi, 2020). Moreover, on average, foreign students display less self-confidence and have a lower perception of their school performance (Gabielli et al., 2013). Against this background, insisting on school results might risk to further limiting the ambitions of these children, confirming their sense of inadequacy. Fueling this fear, lyceums were systematically presented as very demanding and were portrayed as limiting in terms of later access to work. It was often stressed that to attend a lyceum it is necessary to have excellent grades and cultivate from the start the desire to attend university, whereas vocational schools allow direct access to the labor market, offering a more certain future. Even if this might be true in the short term, the empirical evidence is that over the course of a lifetime vocational schools offer fewer prospects in terms of employment probability, earnings and social integration (e.g. Hanushek et al., 2017).

3.2. The implementation context

A multitude of actors

The limited capacity of the project to reduce choice inequalities cannot be investigated without taking into consideration the broader context in which it was implemented. After the Educational Choice Program and before the enrolment deadline, treated students took part in the Arianna

test and received a guidance recommendation elaborated by COSP counsellors and the teachers, just like non-treated students. The broad school guidance process in which the intervention was embedded was characterized by a multitude of different actors in play: professionals of the training agencies, COSP counsellors and teachers. Our non-participant observation highlighted a lack of coordination among them, producing discontinuity among the various phases of the guidance process. The professionals who managed the intervention were rarely in communication with teachers and COSP counsellors and the teachers who attended the classroom meetings often switched, with the result that no single actor followed the intervention in its entirety. In addition, when forming the final recommendation, teachers and counsellors took into consideration the results of the Arianna aptitude test and the final intention stated by the student, but not the children's production elaborated during the classroom meetings.

Family history and migration background in the final recommendation

One student scored very low on the Arianna test (placed in the 8th percentile). During the interview with the COSP staff, the class coordinating teacher mentions some aspects of her situation that he considers noteworthy: the girl's family is in a difficult spot, with health and economic problems. According to the teacher, this influences the girl's low study motivation. The girl is interested in artistic or linguistic lyceums, but this choice is not coherent with the test result. Therefore, the recommendation is short term vocational training.

Observation of the meetings between COSP staff and schoolteachers revealed other elements that are considered in the formulation of the recommendation. Children's personality traits, as well as their family history are often discussed when drawing up the advice. In many episodes the teacher shared information about the student's family situation (when characterized by parental job insecurity or parental conflicts) arguing that it was relevant considering it to avoid recommending a path that the student would not be able to complete, due to lack of family support.

Counsellor (to the teacher): «We cannot make a choice now without considering that she has just arrived in Italy. Therefore, we have to choose vocational training. I would exclude lyceums.»

In evaluating the situation of children with a migratory background, the amount of time spent in Italy and the acquired linguistic skills were taken into strong consideration. This is consistent with how professionals behaved in classrooms: foreign children of recent immigration were systematically warned against «demanding» courses, because it is believed that, given their poor linguistic skills, they will not be able to attend them successfully.

This cautionary attitude is indeed based on factual data: the drop-out rate during high school is 11.6% among foreign students, more than three

times higher than among Italians (MIUR-ISMU, 2019). This however, may reinforce the disadvantage of foreign children who already tend to opt for vocational and short-term tracks much more frequently than their Italian peers, even if they share similar school performance and social origins (Azzolini, Barone, 2013; Contini, Azzolini, 2016).

Conclusive remarks

This paper investigated the effectiveness of a universal school guidance program in reducing inequalities in school track choices across social groups. The aim of the program was to help children and their families make informed and self-conscious choices, with the indirect desired effect of reducing early school leaving, which is, indeed, a historically severe phenomenon in Italy (Struffolino, Borgna, 2021).

Even if the reduction of inequalities was not an explicit goal of the intervention, we expected it would have a positive effect by reducing the under-enrollment of underprivileged students in the tracks providing more general education, diverting them from vocational instruction, at least among the children with high academic potential.

The intervention was based on two pillars: (i) providing information about the available options offered by the upper secondary school system; (ii) making children deeply reflect about their attitudes and aspirations. We assumed that offering information would have mostly benefitted students with low SES and foreign nationality, whose families often have little knowledge of the complexity of the schooling system. Moreover, we assumed that, by helping underprivileged students to reflect thoroughly on their personal aptitudes and interests, the intervention could enable children to detach their decision-making from the social influence of parents and peers, and possibly let them become more confident about their abilities.

We evaluated the impact of the Educational Choice Program with a difference-in-differences design. We found no evidence for an overall effect of the intervention in track choices, and very little evidence for heterogeneous effects. Overall, we can conclude that the program was *not* particularly effective in reducing inequalities in track choices.

To deepen our knowledge of the content and implementation of the intervention, and thus to gain evidence capable of helping us to shed light on the results of the impact analysis, we supported the quantitative analysis with field research, based on non-participatory observation of the program in class and several interviews to the main actors in play: teachers, parents and professionals who conducted the intervention.

This piece of research suggested the existence of mechanisms at play that could explain the absence of effects on inequalities in school choices. On the one hand, even if the informative content of the intervention could have contributed to reduce the information gap between children with different family backgrounds, the absence of translated materials and of

a linguistic mediator made it hard for students with little command of Italian to benefit from the program. On the other hand, our hypothesis that the program might bring students to reflect more thoroughly on their personal attitudes and interests, making the underprivileged ones more confident about their abilities and probabilities of success, is questioned by the large emphasis on current achievement records. This attitude may have the consequence of fostering 'fixed mindset beliefs' among the students, reinforcing instead the feeling of inadequacy of students from disadvantaged backgrounds. Finally, the Educational Choice Program was implemented in a context involving several actors and already providing some school guidance. After the program, the children received the school recommendation jointly elaborated by their teachers and COSP counsellors, who often explicitly considered family characteristics to formulate the advice. This could result in downward advice, even for students who had been successfully pushed by the Educational Choice Program to detach their choice from their family background and make more ambitious choices.

Our findings raise the issue of a potential trade-off between two goals of educational policy: reducing early school leaving and reducing inequalities in choices. School guidance interventions, in line with the national guidelines, tend to focus on the first one and disregard the second one. A reflection on inequalities in choices and on their relevance in guidance processes, then, appears necessary at the national level and a specific training on this issue should probably be provided to counsellors. Without this, guidance projects may contribute to crystallize or even magnify social inequalities in track choices and, eventually, in educational attainment.

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**High School Choices in Tracked Systems.
Can School Guidance Be an Effective Means
for Reducing Family Background
Inequalities?**

Despite the Best Intentions. Educational Inequalities in Highly Stratified but Choice-Driven Tracking Systems

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ABSTRACT: *This paper investigates social inequality in educational aspirations and choices within a highly stratified but rather unselective tracking system. By exploiting a unique longitudinal administrative dataset from the city of Turin (N=6,759), we analyze students' trajectories at a crucial turning point for educational careers in Italy, i.e. the transition to secondary schooling. We unpack the decision-making process of students from different family backgrounds by examining: (i) how initial intentions develop into actual track choices, (ii) the role played therein by school guidance, and (iii) the consequences in terms of school failure in the first year of secondary school. We show that, even when school guidance is not socially biased, it can contribute to social inequalities in track choices and outcomes. This is partly due to its non-binding nature, from which high-SES families take most advantage, and partly to the attention reserved to student's initial intentions. Educational intentions are heavily socially stratified, as they reflect aspirations and acquaintance with the educational system. School guidance professionals factor them in because they consider them a proxy of motivation and family support, which could sustain children in their future educational careers. Yet, our analyses on student performance during the first year of secondary school reveal that, net of prior ability, ambitious intentions do not actually protect from the risk of failure neither low-SES nor high-SES students. We conclude that, especially within institutional contexts where freedom of choice over educational transitions is large, school guidance might fuel negative push factors for high-achieving but low-aspiring students, with harmful consequences for both equity and efficiency at the system level.*

KEYWORDS: *Educational inequalities, Educational choices, Tracking, School guidance*

Introduction

At multiple stages within their educational career, students are called to make choices that, while crucial for their future life chances, are not always well informed (Morgan, 2005). Educational decision making has important implications for social stratification, because – as extensively documented by sociological literature – students coming from families with a high socio-economic status (SES) are more likely than low-SES ones to make ambitious educational choices. In particular, academic

schools and university lead to the development of skills and the attainment of qualifications that are eventually more rewarding compared to vocational training, early school leaving, and early labor-market entry. The social gap in educational choices can partly be explained by pre-existing differences in terms of school achievement: on average, high-SES students do better in school than low-SES ones, and this translates into more ambitious choices of the advantaged group. However, even when we compare children with similar levels of ability, social differences persist: following Boudon (1974), this empirical regularity is known as secondary effects of social background on educational transitions.

Within secondary schooling, an important field for educational decisions is set by the practice of tracking, which consists of channeling students into distinct educational pathways according to their aptitudes, interests, and preferences, with the aim to create homogeneous learning environments. Tracking takes different forms across countries (Blossfeld et al., 2016; Chmielewski, 2014). For example, students can be allocated to different school types (between-school tracking, typical of continental Europe), or remain in the same school building (within-school tracking, more common in the Anglo-Saxon world). In the latter case, students can attend different curricular lanes (electives) or follow the same subjects but at different levels (ability streaming). Moreover, the system can be very rigid or relatively permeable, e.g. allowing for bridges and second-chance options.

The most studied feature of tracking is stratification. This institutional dimension, firstly identified by the studies of Jutta Allmendinger (1989) and Alan Kerckhoff (2001), is defined as the vertical differentiation of curricula at a given grade of schooling. Typical indicators of stratification are the age at tracking, the number of tracks, and the existence of bridges between them. Empirically, highly stratified systems tend to have high social inequalities in track placement, school achievement, and educational attainment (Brunello, Checchi, 2007; Chmielewski, 2014; Marks, 2005; Pfeffer, 2008; Schütz et al., 2008; Van de Werfhorst, Mijs, 2010).

A less studied dimension is that of selectivity, that is the degree to which track placement is a function of previous school performance (Jackson, Jonsson, 2013). Highly selective systems typically use legally binding criteria to regulate access to academic tracks, based on achievement tests, school marks or, at the very least, teachers' recommendations. A high level of selectivity is associated to lower SES inequalities in educational transitions (Contini, Scagni, 2011; Dollmann, 2016).

Empirically, selectivity and stratification go hand in hand: systems with high levels of stratification tend to be also highly selective (see Table 1). Hence, as noted by Jackson and Jonsson (2013), it is not easy to disentangle the effect of either dimension on social inequalities.

TAB. 1. *Stratification and selectivity of tracking systems*

Stratification	Selectivity		
	<i>Low</i>	<i>Intermediate</i>	<i>High</i>
<i>Low</i>	UK USA Spain	Denmark Sweden	
<i>Intermediate</i>		France	
<i>High</i>	Italy		Germany Austria Netherlands Hungary

Source: Adapted from Jackson and Jonsson (2013, 310).

The case of Italy is interesting because it couples a high degree of stratification to a low degree of selectivity. Stratification is high for at least four reasons: first, pupils are tracked quite early, at age 14; second, there is a widely accepted hierarchy in the prestige of tracks (Pitzalis, 2012; Romito, 2016)¹; third, upward mobility across tracks is rare and not facilitated; finally, although university access is open to students coming from any five-year track, the chances of university enrollment and attainment are *de facto* much lower for students who come from low tracks (Contini, Salza, 2020). At the same time, the Italian tracking system is rather unselective, because track placement is left entirely to the choice of families: classroom teachers formulate track recommendations, but in doing so they are not compelled to stick to the previous achievement records of pupils; most importantly, teacher recommendations are not binding for families, which can easily disregard them, e.g. sending their child to an academic school even though (s)he received a recommendation for a vocational school.

In principle, this combination should produce large social inequalities in educational transitions, because highly educated parents have more chances to exploit the qualitative differentiation of the school system to the advantage of their children (Jackson, Jonsson, 2013). In fact, empirical research has found that the influence of social background, and in particular secondary effects, is indeed very high in Italy, compared to other industrialized countries (Contini, Scagni, 2013).

This paper uses the Italian context as a case study for a tracking system that, despite being *de facto* highly stratified, leaves ample freedom of choice to students and their families. More specifically, our analyses

¹ At the top we find traditional lyceums (*liceo classico* and *liceo scientifico*, i.e. academic tracks in the strict sense), followed by new lyceums (with specialized curricula in arts, social sciences, or foreign languages), technical schools (meant to prepare for specialized technician or managerial positions), vocational schools (preparing for labor-market entry in various fields) and, finally, vocational training programs (short applied programs organized at the regional level; they do not give access to university).

focus on the city of Turin, where a public school guidance system assists teachers in the fortu

Our aim is not so much to isolate the causal effect of stratification or selectivity, but rather to investigate *how* they contribute to the reproduction of social inequality in educational transitions, in a similar way to what done by Barg (2015), Dumont et al., (2019), and Seghers et al., (2019), who have analyzed students' decision-making in – respectively – France, Germany, and Belgium, countries that exemplify different tracking regimes. In so doing, we aim at shedding light on how macro-level, institutional factors (i.e. the structure of tracking) interact with micro-level factors (i.e. students' aspirations as shaped by the family context) in affecting students' choices and subsequent outcomes. We unpack the decision making process of students and their families by examining the following research questions:

1. How do initial intentions develop into actual track choices for the different SES groups?
2. Are track recommendations biased in favor of high-SES students?
3. Do high-SES students deviate more often from the recommendation to make ambitious track choices?
4. What consequences of ambitious track choices in terms of school failure in the first year of secondary school?

Theoretical background and hypotheses

From a theoretical standpoint, there are two orders of reasons that might explain social inequalities in educational intentions and choices. The rational-action theory of educational decision making (Breen, Goldthorpe, 1997; Erikson, Jonsson, 1996; Esser, 1999) focuses on what we may call pull factors (Gambetta, 1987, see also Borgna, Struffolino, 2017): these are the perceived costs, benefits, and probabilities of success that students consider when translating their aspirations into choices. For the Italian context, for example, Barone et al., (2018) show that misperceptions on the difficulty of academic tracks are common among students from low SES. Based on this theoretical perspective, we develop the following research hypothesis:

H1: We expect to find SES differences in educational intentions even net of previous achievement: low-SES students, who have less information to navigate the educational system and may overestimate the difficulties of academic tracks, will be less ambitious than high SES ones²

² We define ambitious choices as choices for the academic tracks, even though formally all secondary schools release certificates that allow university entrance, because traditional lyceums are seen as the most prestigious option

In unselective tracking systems, where students and their families can easily disregard teachers' recommendations, we can additionally expect that:

H2a: SES differences in actual choices will be larger than in initial intentions: low-SES students, even when they start off ambitious, are more likely to cool down their aspirations when they consider the resources at their disposal, and more sensitive to the risks of pursuing ambitious educational careers (relative risk aversion).

Other theoretical traditions (e.g. Willis, 1977; Bourdieu, Passeron, 1979) argue in favor of push factors: these act «behind the back» of individuals, pushing them forward (or holding them back) almost unwittingly (Gambetta, 1987). Under this perspective, the very same aspirations are influenced by the context. First and most importantly, cultural norms within the family and among peers shape the *habitus*, i.e. a durable set of social dispositions that 'mechanically' affect individual preferences and actions (Bourdieu, 2007). This mechanism seems especially apt for educational decision making, as shown, for the Italian context, by Pitzalis (2012) and Romito (2016). In addition, in the social psychology tradition, push factors are attributed to mechanisms like 'sour grapes', according to which individuals unconsciously adapt their preferences to factual constraints in order to avoid cognitive dissonance (Elster, 2015). If push factors prevail over pull factors, then H2a should be disproved and we might expect that:

H2b: Social inequalities in educational intentions and choices should be of similar size, because the cooling down process typical of low-SES students concerns not only choices, but also aspirations.

In unselective systems, an important role can potentially be played by activities of student counselling and guidance. On the one hand, effective school guidance could reduce social inequality by replicating, for low-SES students, the positive push and pull factors that high-SES students enjoy from their families and context. For example, it could provide accurate information on the benefits of academic tracks and the student's chances of success. On the other hand, school guidance could increase social inequality, by reinforcing the negative push and pull factors that low-SES students already experience, e.g. convincing them that high tracks «are not for them». There is ample evidence, including for the Italian context (e.g. Argentin et al., 2017; Checchi, 2010) that teachers tend to be socially biased when they provide recommendations for academic tracks. Qualitative evidence indicates that even professional school guidance is hardly neutral with respect to family background (Borgna et al., 2021; Pitzalis, 2012; Romito, 2016): on the one hand, even when not

and, as mentioned, *de facto*, they offer much greater chances of access and progression at university and in the labor market.

explicitly socially biased, the recommendations tend to mirror family *desiderata*; on the other hand, high-SES families often display a high degree of resistance to restraining guidance, while for low-SES families, school institutions are repository of expert knowledge to be trusted (Lareau, 2002). Hence, we expect to find:

H3: High-SES students to be more likely to receive a recommendation for academic tracks, even net of previous achievement.

H4: High-SES students to comply less often with downward recommendations, i.e. for tracks lower than what they aspire to.

From a policy perspective, it is important to consider the consequences of ambitious intentions, because if most of them result in school failure or even early school leaving, then a school guidance system that is too encouraging could be detrimental. Examining post-choice outcomes is also important from a theoretical perspective: the social gap in track choices can be read as a 'mistake' of low-SES students, overcautious, or as a 'mistake' of high-SES students, over-ambitious. By analyzing post-choice trajectories for the two groups, we can shed light on whether the educational aspirations of either group of students were misplaced, for the best or for the worst.

Thus, we further investigate the risks of school failure at the end of the first year of secondary schooling, guided by the following two research hypotheses:

H5: Ambitious intentions should protect from the risk of school failure, even net of previous achievement.

H6: This should be especially the case for high-SES students, who have more symbolic and material resources to deal with low achievement issues.

Data and methods

Our empirical analyses are based on longitudinal archives from the city of Turin. Specifically, our main database derives from the school guidance system that the Municipality has provided for over 20 years, and covers the whole population of 8th graders for the year 2017/18 (Arianna dataset). The data is very rich and, crucially for us, contains information on students' family background, achievement in terms of grades and standardized tests, information, and intentions before the actual choice. We linked this dataset to student records that we retrieved from lower-secondary and upper-secondary schools in order to reconstruct a panel that follows students throughout their transition to secondary schooling (spring of 7th grade/ fall of 8th grade: recording of students' family background and achievement records, track intentions, standardized testing of cognitive and non-cognitive skills; fall of 8th grade:

track recommendation; winter of 8th grade: track choice; end of 9th grade: recording of school achievement)³. Our analytical sample, based on complete cases on all dependent and independent variables, is constituted by 6,759 students.

In a first set of analyses, we unpack the different steps of the track decision making process. We estimate several logistic models on the probability to: (1) have ambitious intentions (academic tracks vs. lower tracks or no stated intentions⁴); (2) make ambitious choices (academic tracks vs. lower tracks); (3) receive a recommendation for an academic track (vs. for a lower track); (4) comply with a downward recommendation⁵ (choose the recommended track vs. a higher track). Our main parameter of interest is the coefficient for social background, expressed in terms of parental education (1: tertiary degree, 0: less than tertiary degree) and parental occupation (high, medium, low). We control for socio-demographic variables (sex, nationality), a wide array of achievement measures (previous grade repetition, self-reported grade point average, standardized test scores in five cognitive competence domains: logical, abstract, linguistic, spatial, and strategic thinking) and for the timing of testing (0: spring of 7th grade, 1: fall of 8th grade). We additionally include lower-secondary school fixed-effects.

The second part of our analyses focuses on post-choice school outcomes, and more specifically on the probability of school failure (operationalized as grade repetition) at the end of 9th grade. Our main parameter of interest is here the coefficient associated to given initial intentions (academic, specialized, vocational, none). Our control variables are the same as before (including, now, social background). In additional models we interact track intentions with parental education in order to investigate potential heterogeneity in the effect of starting off ambitious. To account for the different performance standards and, consequently, grade repetition rates, all our models are run separately by track of enrollment (traditional lyceums, non-traditional lyceums, technical schools)⁶.

³ We are grateful to the Educational Services department of the Municipality of Turin devoted to school guidance (*Centro per l'Orientamento Scolastico Professionale*, COSP) for providing access to their data archives (Arianna dataset), supporting the collection of the missing information from schools, and making the anonymized data linkage possible. The COSP system may be regarded as a 'best-practice' within the Italian context (see Borgna *et al.*, 2021 for details) and, as such, represents an interesting case study within the national one.

⁴ As a robustness check, we also estimate the same model by excluding the undecided students (i.e. with no stated intentions).

⁵ Downward recommendations are defined as recommendations for a track lower than the one that the student aspires to.

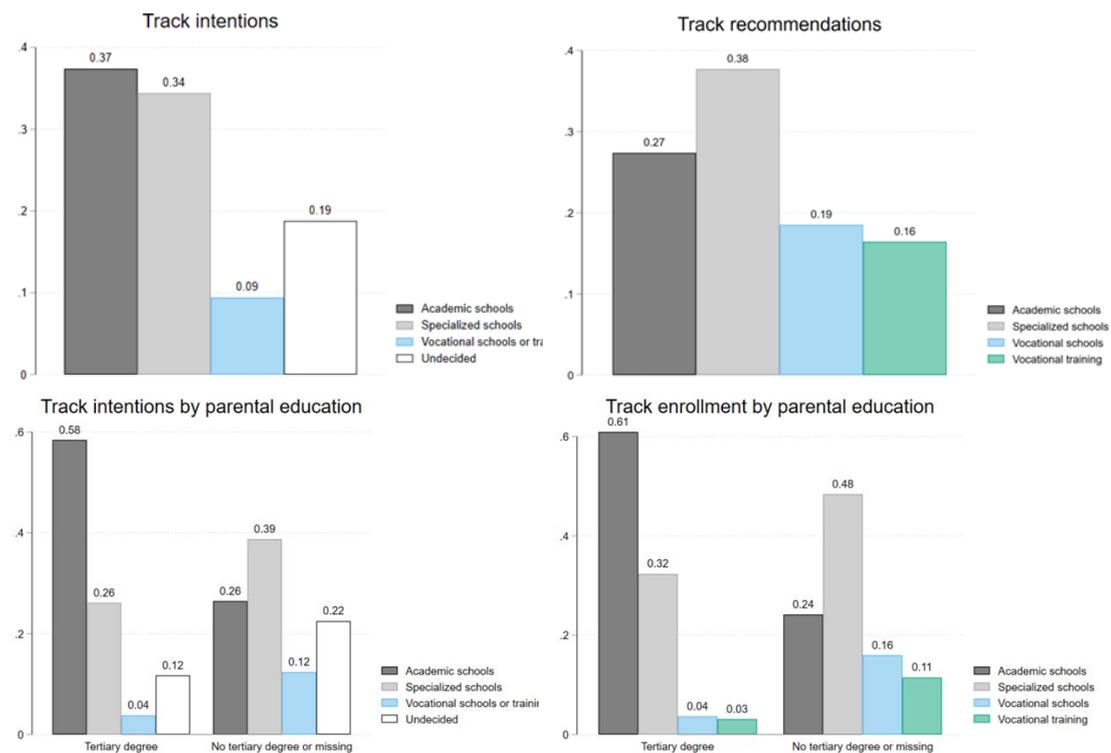
⁶ The analysis is not possible for students enrolled in vocational schools and training because, in the school year analyzed, grade retention was not possible in these tracks

We report our estimates in terms of average marginal effects (AME).

Results

A first descriptive result is that students tend to be rather ambitious in their initial intentions: as visible from Fig. 1, 37% state that they aspire to academic tracks and only 9% are initially attracted by vocational schools or training.

FIG. 1. *Track intentions and recommendations*



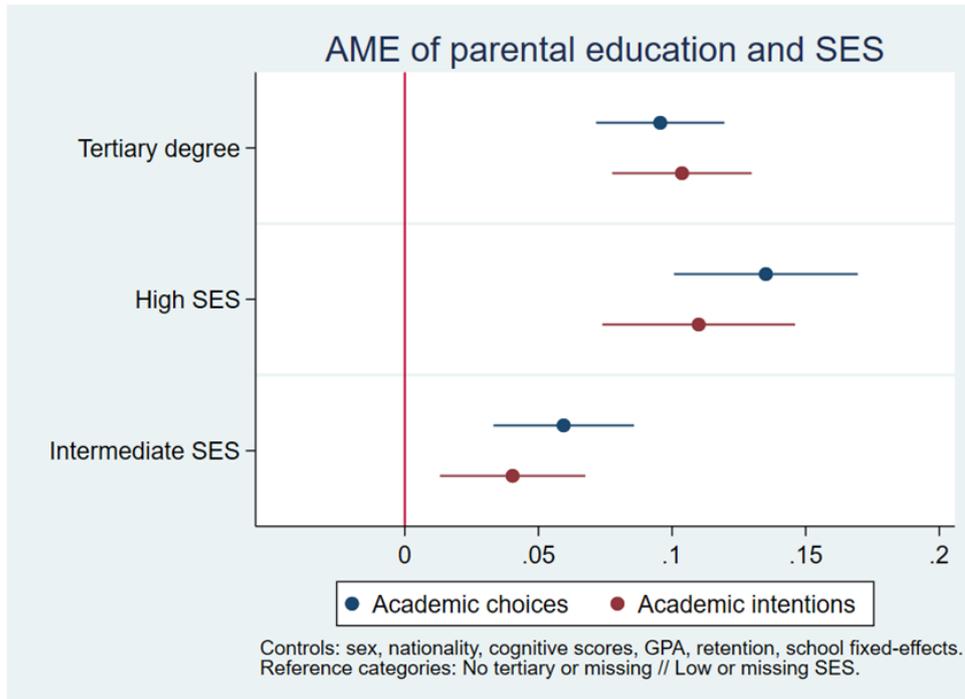
Source: Authors' elaboration based on registry data from Turin Municipality and school records.

On the contrary, school guidance tends to be restraining, recommending more often technical schools (38%), vocational schools (19%) and vocational training (16%). As could be expected, academic tracks are most popular among children of highly educated parents, and this is evident both in the intentions (58%) and in the actual choices (61%). Children of parents who do not have a tertiary degree not only have a lower level of ambition, but are also more often undecided about which track to choose (22%).

When we model the probability to have ambitious intentions or to make ambitious choices net of school achievement and other potential confounders, we find large effects of social background, measured either as parental education or parental occupation, in the order of 10

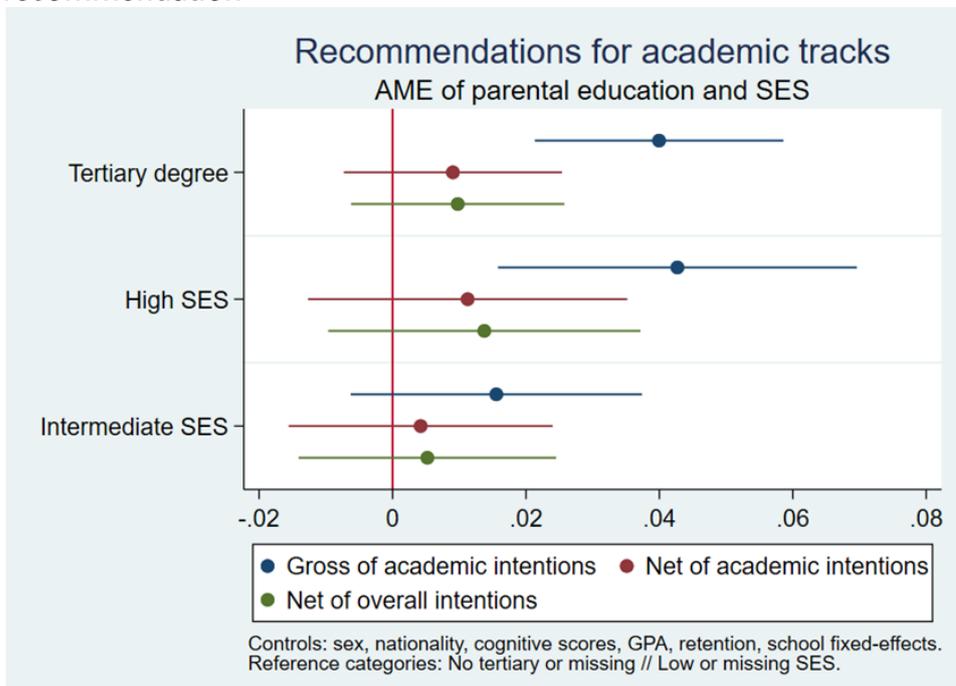
percentage points or more (see Fig. 2): this supports H1. The effect is similar for both intentions and choices, disproving H2a in favor of H2b.

FIG. 2. *Effects of social background to have ambitious intentions and to make ambitious choices*



Source: Authors' elaboration based on registry data from Turin Municipality and school records.

FIG. 3. *Effects of social background on the probability to receive an academic recommendation*

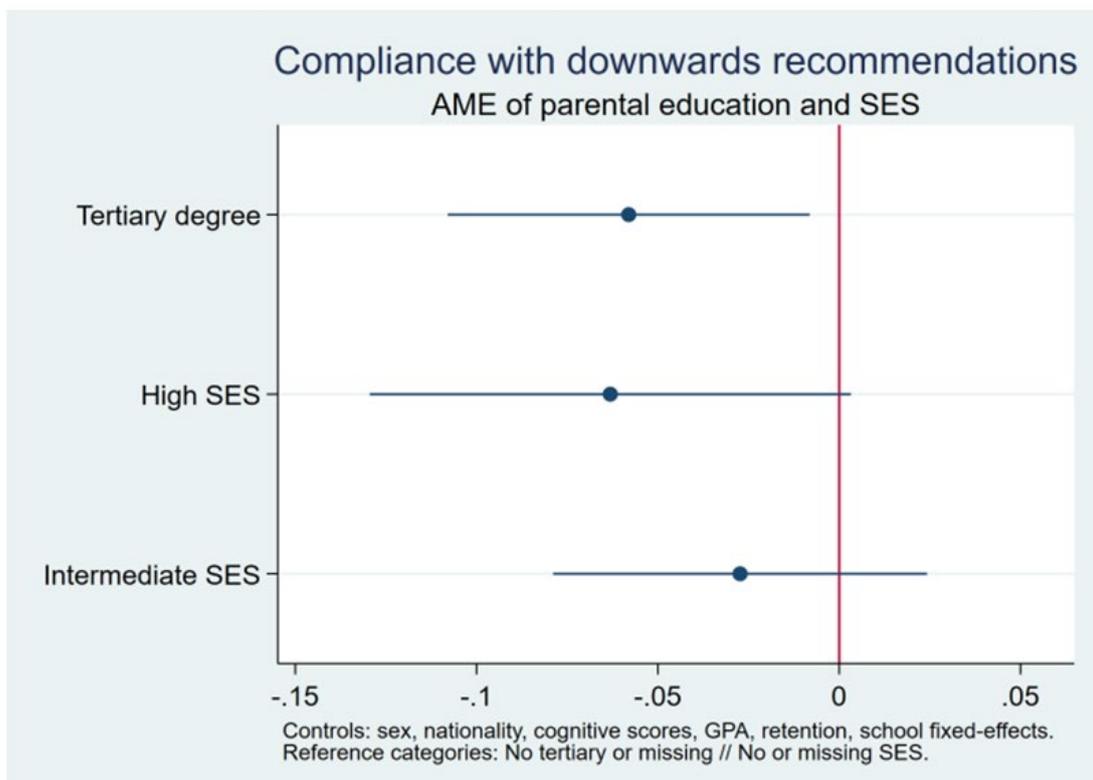


Source: Authors' elaboration based on registry data from Turin Municipality and school records.

Multivariate models also indicate that high-SES children are more likely to receive recommendations for academic tracks, even net of school achievement (hence supporting H3). Interestingly, this effect seems to be driven by the SES gap in initial intentions that we have just documented: net of stated intentions, neither parental education nor parental occupation affect the probability to receive an academic recommendation (see Fig. 3). Hence, school guidance is not socially biased *per se*, but nevertheless produces a bias by incorporating the aspirations expressed by the students, which are heavily socially stratified⁷.

Fig. 4 shows that social background negatively affects the probability to comply with a recommendation that does not match the stated track intention: as expected from H4, high-SES students are more likely to deviate from such recommendations and stick to their original plan.

FIG. 4. *Effects of social background on the probability to comply with downwards recommendations*



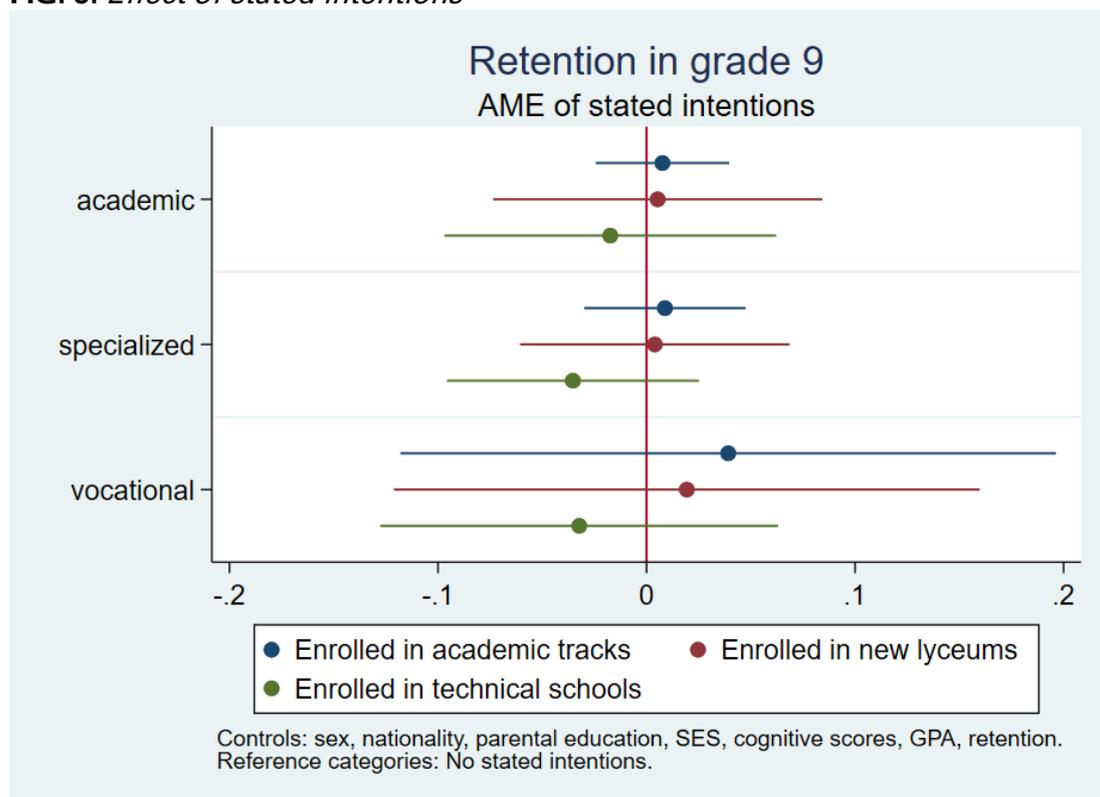
Source: Authors' elaboration based on registry data from Turin Municipality and school records.

Finally, when it comes to subsequent outcomes, we find that — contrary to what we expected from H5 — ambitious intentions do not protect students from school failure. As visible from Fig. 5, net of SES and previous achievement, the probability to face grade retention at the end of grade 9 is not significantly different among students who had

⁷ This is also evident as we model the probability to receive a downward recommendation (not shown).

expressed an intention for academic, specialized, or vocational tracks, and those who did not state any intention because they were too undecided. Interestingly, this is valid both for students who enrolled in an academic track (hence following their initial intention) and for students who cooled down their initial aspirations and enrolled in a specialized track (non-traditional lyceums or technical schools), although the probabilities of grade retention *per se* do vary depending on the chosen track⁸. Models where we interacted initial intentions with social background variables consistently indicate that the pattern is the same for low-SES and high-SES students: moving from an initial high level of aspirations does not protect any social group from the risk of school failure (thus, rejecting H6).

FIG. 5. *Effect of stated intentions*



Source: Authors' elaboration based on registry data from Turin Municipality and school records.

Conclusions

Our preliminary findings indicate that, even when school guidance is not socially biased, it can contribute to social inequality in track choices and outcomes and suggest that this occurs through two distinct mechanisms.

⁸ Although not directly visible from Fig. 5, differences in the probability of grade retention between students with different levels of ambition (ex. academic intention *vs.* specialized intention) are also not statistically significant.

First, the fact that school guidance heavily relies on the track intentions initially expressed by students (besides previous achievement records) reinforces the negative push and pull factors to which low-SES students are already subject to. Indeed, high-achieving but low-aspiring students (who predominantly come from socially disadvantaged backgrounds) are encouraged to stick to a cautious behavior rather than aiming higher. In other words, school guidance, although not explicitly socially biased, contributes to the intergenerational reproduction of inequality by providing an institutional warrant to the social stratification of aspirations produced within the family and in previous interactions with the school system. Second, the non-binding nature of Italian school guidance (and more generally, the lack of selectivity of its tracking system) is predominantly exploited by high-SES families. In particular, low-achieving but high-aspiring students (who predominantly come from socially advantaged backgrounds) seldom receive recommendations for academic tracks, because school guidance tends to be restrictive for all groups. However, since they are less likely to comply with downward recommendations, the system proves unable to counteract for the positive push and pull factors that make them overambitious with respect to their actual academic potential.

Our analyses also entail clear policy implications for the practice of school guidance within a tracking system that is stratified and unselective at the same time: relying too much on the preferences expressed by the students and their families can increase social inequality in track choices and, eventually, in educational outcomes. Moreover, since our findings indicate that a high level of ambition does not actually protect from subsequent failure, incorporating track intentions in the guidance process is probably not beneficial even in terms of reducing early school leaving. Since high-achieving students who start off as not particularly ambitious are the group most hit by this practice, if school guidance system does not challenge students' initial intentions, it bears the risk of being detrimental not only for the equity, but also for the efficiency of the system.

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Pre-COVID-19 Career Guidance Activities in Middle and Secondary Schools of Trentino: A Study about Collaboration Networks and Schools' Practices

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ABSTRACT: *During the first COVID-19 lockdown, we, as provincial office for the evaluation of educational policies of the Autonomous Province of Trento, proposed a questionnaire to our secondary schools' reference teachers for career and school guidance, to understand their working practices in the pre COVID-19 period. Our aim was to understand the status quo at provincial level about projects and collaboration patterns between schools in formal and informal networks. These career and school guidance projects may have in turn an impact on students' choices in transition between different orders of schools, or to work and tertiary level education. Despite in Trentino, in the last years, a lot of efforts were put in implementing a kind of integrated system for school and career guidance, still each school and/or network of schools are quite independent and autarch in developing and carrying out their projects. The sharing of good practices among schools and networks of the whole province is still limited, and in a very initial phase. It is argued that these more territorial based projects would benefit from such exchange, to prevent an asymmetric and quality differentiated access to information, which may impact the desired «equity» of the whole system, in giving to all students the same opportunities despite of the location of their schools.*

KEYWORDS: *career and school guidance, schools' formal/informal networks, schools' guidance practices and projects*

Introduction

The issue of the development of networks within educational and training institutions has become increasingly important in the educational literature, both as a new construct to improve the development of educational activity itself and, as a new strategy for achieving the objectives of system reforms, (Chapman, Aspin, 2003). Precisely, in this second sense, the opportunities offered by networks can help individual educational institutions and teachers to face together the difficulties associated with the adoption of effective actions against the phenomenon of school dropout (Woolcook, 2000). In Trentino schools, in the last fifteen years, some studies have been conducted on social capital in schools (Tomei, 2006; Colozzi, 2010, 2012; Pisanu, Tabarelli, 2012,

2014), both to confirm the potential of networks to improve the activity in the classroom (Andrews, Rothman, 2002) and in a more pragmatic and instrumental perspective as, for example, suggested by de Lima (2010), in advising to consider some key elements such as forms, types and dynamics that the network itself (re)-produces during the time, which are peculiar to the educational and training spheres. Above all, it is important to ask oneself which values, social norms and perspectives are at the basis of the willingness of the actors to enter these peculiar networks and what are the specific reasons underlying their functioning and maintenance over time. Surely a strong motivation seems to be to «break» the isolation of teachers in individual classes and in individual schools in the territorial area (Pisanu, Tabarelli, 2012). The present work wishes to contribute to the debate on the evaluation, impact, and quality of career guidance projects in schools (Gatsby Charitable Foundation, April 2014, Final Report)¹ with a particular focus on the role played by social networks, in promoting a more integrated and efficient school guidance system in the Autonomous Province of Trento.

1. Career and school guidance in Trentino: state of the art

The main aim of this research was to reconstruct the state of the art about current projects and practices of the provincial secondary schools (both lower and upper levels) in the field of career and school guidance, to be able, first to give to schools specific support and advice during the difficult time of the pandemic, and second to be able to plan future actions and formative activities for reference teachers, more tailored on their specific needs and closer to their territorial reality.

We started considering the results of past research activities carried out during a FSE project², which had the purpose of creating the preconditions for an integrated system for career and school guidance in the Autonomous Province of Trento. This project took place between 2011 and 2015, involving many experts from universities, local research institutes, local professional associations and NGOs, and aimed at reaching these specific objectives: 1. Recognition and systematic organization, through databases and structured analysis reports, on the widespread and active guidance practices in the Trentino school context in the period between the last classes of the lower secondary schools and

¹ <https://www.gatsby.org.uk/uploads/education/reports/pdf/gatsby-sir-john-holman-good-career-guidance-2014.pdf>

² ESF OB. 2 2007 – 2013 IV – Ob. Spec. H – Cod. 4H.19: «Modellizzazione di un sistema organico di orientamento, coerente con i fabbisogni professionali espressi dal territorio e con le linee guida della programmazione provinciale» (Modeling of an organic guidance system, consistent with the professional needs expressed by the territory and with the guidelines of the provincial planning).

of the upper secondary and VET schools; 2. Research aimed at contextualizing the national guidelines for school-work projects (the so-called «*alternanza scuola-lavoro*», which were recently changed through the *new guidelines*³ at national level) in the Trentino education system; 3. Action research for the promotion of new skills and for the professional development of guidance in education and training; 4. Elaboration of a model of an integrated system of school and training guidance at the provincial level and implementation of related tools, including information technologies (IT), for dissemination and maintenance.

Many new political decisions, both on provincial and national level, about career and school guidance occurred during and after the completion of this project. From one side, the so-called national guidelines for the permanent school guidance (*Linee guida nazionali per l'orientamento permanente, nota n. 4232 del 19.2.2014*⁴), were promoting such a systemic and integrated view about the guidance system of the schools, which were perfect in line with the general purposes of the Trentino FSE project, but after the completion of the project, so far, we cannot state that Trentino has fully reached the specific objective 4 of that project. The need to have an update of the situation to get closer to reach this objective, has led our provincial office, which oversees and supports the actual provincial school guidance system, to elaborate a questionnaire to reconstruct current practices and projects carried out by the schools.

The results of this questionnaire will help us in planning concrete training actions for reference teachers and implementing those IT tools needed to boost and maintain a well-functioning and self-sufficient integrated system for career and school guidance in our province.

2. Methodology

The questionnaire was divided in two main sections: the first one about the quantification and analytical description of the current projects, the second one about the reconstruction of the collaboration networks between schools (SNA). The main unit of analysis of our research was the school. We sent the questionnaire to all our reference teachers for guidance (n=166), who can be one or more by each institute because of the possible presence of different schools' typologies in one institute. We considered our whole schools' population, including private schools. We had 100 questionnaires in return. As can be observed in the Table 1, all schools' typologies were covered by our survey. The general percentage of coverage reached was 77% of the whole «population» of provincial

³

<https://www.miur.gov.it/documents/20182/1306025/Linee+guida+PCTO+con+all+egati.pdf>

⁴ https://www.istruzione.it/orientamento/linee_guida_orientamento.pdf

schools; in the case of lower secondary schools 92% of the total schools of this typology was reached. The questionnaire was filled out in the period between Mai and June 2020 and referred to projects and collaborations in the previous two school years until February 2020 (School years 2018/19-2019/20), before the COVID-19 pandemic. «Comprehensive schools» refer to elementary and lower secondary schools (Istituti Comprensivi); «all-encompassing schools» refer to those institutes, which comprehend inside all levels (elementary, lower, and secondary schools). Inside the category «secondary schools» are comprised all typologies of lyceums, technical and professional institutes, which last 5 years. The VET (Vocational Education Training) schools are divided in VET centres and VET institutes.

TAB. 1. *Total number of questionnaires distributed across schools' typologies*

	<i>Coverage schools (%)</i>	<i>Questionnaire (number)</i>
comprehensive schools (both public and private)	92	50
secondary schools (both public and private)	82	30
all-encompassing schools	50	1
vocational training institutes	100	5
vocational training centres	61	14
<i>TOTAL</i>	<i>77</i>	<i>100</i>

Source: Own elaboration

3. General results

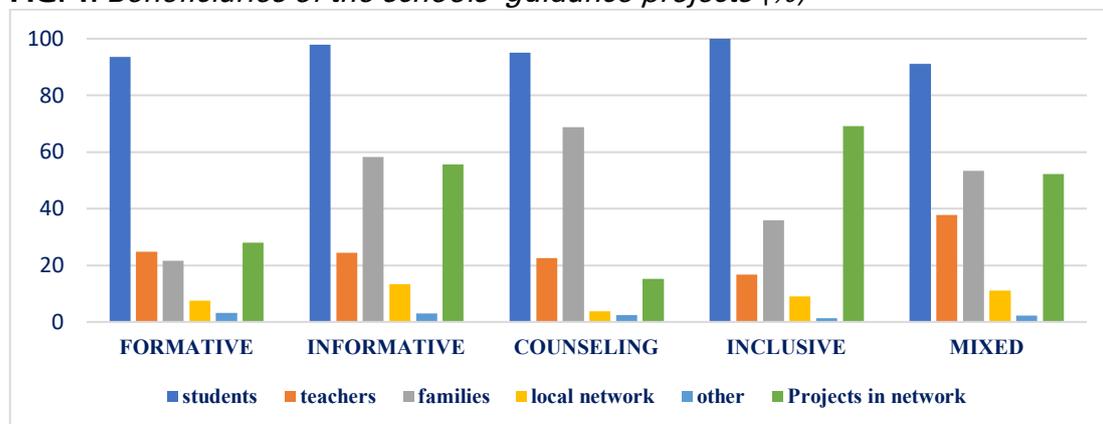
In very general terms, we could confirm that in Trentino all schools have some core projects mostly regarding the typologies «informative» and «formative» of guidance activities and that the «counselling» typology is mostly but not only delegated to external experts, mainly psychologists working already at the school or directly recruited. Regarding the «inclusive» typology of guidance activities there were, very few innovative projects about gender issues and guidance of students with a migration background. In the past, more projects were carried out by the schools regarding the specific guidance needs of these students.

Another part of the questionnaire investigated the role of formal and informal networks of schools collaborating in jointed projects about career and school guidance. In Trentino there are some well-established formal networks of lower and upper secondary and VET schools, on a local level, which have a particularly important role in organizing and planning mostly jointed information and formation activities for students and their families, which in turn may have an impact on the further choices of the students. Data revealed that there was also an interesting «parallel» informal network of schools, mainly regarding the schools

around the town of Trento, where some lower secondary schools and VET schools have a role in connecting as brokers more dispersed schools in the whole province. To monitor changes in the patterns of collaboration between schools, during and after the COVID-19 pandemic, we recently sent a follow-up questionnaire, to verify the differences and behaviours of schools on this issue and to highlight the risks that students face in this period also in the management of transitions.

It is also important to state here that the questionnaire gave us the opportunity to better know some characteristics of our reference teachers for guidance: 26% of the respondents were in this role from September 2019, so less than one school year, 32% were reference teachers from one to three school years, 17% between three and seven years and the remaining 25% were in this role for more than seven years. They have a quite different expertise in this role, which also depend on their specific position in the school, but still there is potential for building a community of practice, in which the most experienced may help the «newest ones» in building the competences needed for this quite challenging and important role.

FIG. 1. *Beneficiaries of the schools' guidance projects (%)*



Source: Own elaboration

3.1. Practices and projects

In the Fig. 1, it is possible to grasp, who were the beneficiaries of the described projects, distributed across the five typologies of guidance activities: formative, informative, counselling, inclusive and mixed; and if these projects were the product of a network work between the schools. Informative guidance activities usually comprehend schools' fairs, jobs' fairs, production of informative flyers, open days at upper secondary and VET schools, information events; formative guidance activities are mostly carried out through interdisciplinary laboratories, guidance «lessons», a «real bath» in the life of the school involving students or teachers narrating their personal experiences; counselling guidance activities refer to mostly professional advices or support from the side of a psychologist or a pedagogist, which gives information to students and families through dedicated spot activities and events; inclusive guidance activities

are those dedicated to specific groups of students, who require a more personalised and tailored guidance action such as students with special educational needs, students with a migration background and in general refers to all those themes, such as those regarding gender issues for example, which can generate stereotypes; mixed guidance activities are a creative mixture of almost two of the above mentioned typologies.

As it is possible to see from the Fig. 1, the informative, inclusive, and mixed typologies are largely performed in collaboration with other schools. This is quite intuitive, because these kinds of activities are mostly planned and performed with the help of the colleagues from the upper secondary schools and VET schools to succeed. Only one formative project about four is performed in collaboration with other schools, here there could be space for improvement or integration of typologies in mixed projects. The beneficiaries of the projects are mostly students in all typologies, followed by families, mostly regarding informative and counselling activities. The mixed projects would have the potential to reach more beneficiaries at the same time, being creative and participative, but they are very few in our province and require a particularly good expertise from the side of the reference teachers involved. In average, each school declares to perform more than three informative activities (3,33) during the school year, two activities for the formative (2,37) and the counselling (2,18) typologies and only one for the inclusive (1,66) and mixed (1,05) typologies. This is quite reasonable also considering previous data, but still a quite high variability was detected in all typologies. These data need to be confirmed by the follow-up survey.

3.2. Networks of schools for career and school guidance

As already mentioned at the beginning of this paper, a particular role, for improving the general quality of the whole provincial system for school guidance, can be played by schools' networks. In the schools of the Autonomous Province of Trento (PAT) the practice of collaborating among schools is quite well established and promoted. For example, as stated by the provincial law about school (*art. 19, comma 1, legge provinciale 5/06*):

The provincial educational and training institutions operate through network agreements for the best use of resources, the achievement of their institutional purposes and the containment of costs. The network agreement may concern educational, technical-administrative and management activities and may also provide, without prejudice to the autonomy of individual budgets, the activation of common service centres, the purchase of goods and services, the use and temporary mobility of staff, including teachers.⁵

⁵ <https://www.consiglio.provincia.tn.it/leggi-e-archivi/codice-provinciale/Pages/legge.aspx?uid=15633>

Also concerning career and school guidance activities, schools may enter/create formal network agreements on a local basis, to better collaborate and to solve together problems regarding students' transitions between different orders of schools. The last recognition of all networks' agreements, which were active in the province, was collected in 2015, revealing the existence of nine formal networks operating in different educational, technical-administrative and management activities. To detect the specific networks for career and school guidance, we asked schools to send us their networks agreements and we discovered that only five networks' agreements are specific for guidance, plus one that is very generic, but it also comprehends the improvement of school guidance among his main purposes.

The nodes (schools) of these six formal networks were easily identified in the agreements, and the structure of each network was reconstructed asking to each school to estimate the intensity of the collaboration with the other schools of the same agreement. This was a classical social network analysis (SNA), which allowed to reconstruct the whole six formal networks.

3.2.1 Formal networks

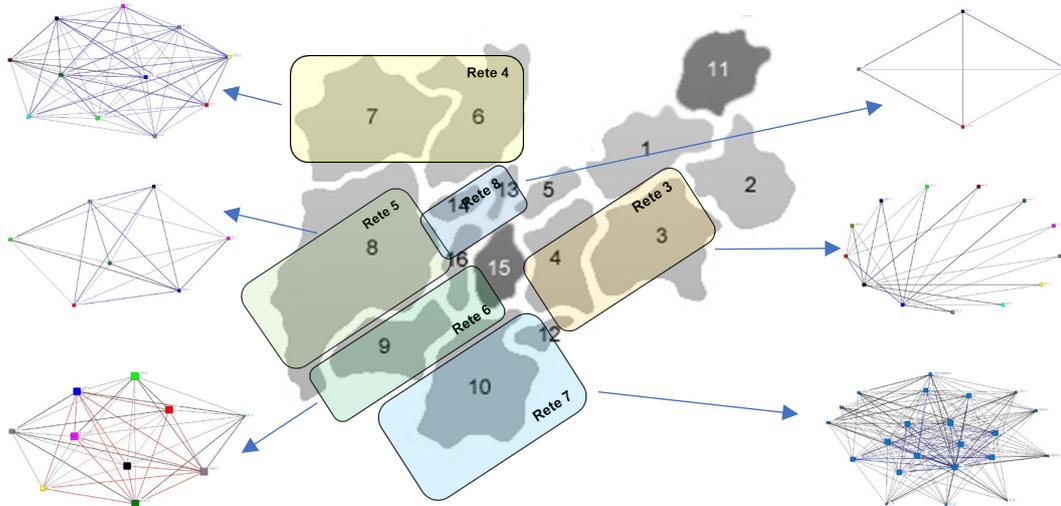
The six formal networks for career and school guidance, which are currently active in the Autonomous Province of Trento, have quite different structural characteristics regarding the number of schools involved in each network, the backstory about the genesis of each network, and the configuration of their relationships. The territorial location of each network, and the visualization of the structure, can be grasped from Fig. 2. For the purposes of this paper, it is not intended to go further in the detailed explanation of the structural characteristics of these formal networks.

From Fig. 2, it is also possible to see, that not all the localities of Trentino are «covered» by these networks. Especially the town of Trento, where most of the schools are located, has no formal agreement for jointed actions regarding career and school guidance. The east side of Trentino has no formal agreements too, excluding the Primiero valley, which has an agreement with the secondary and VET schools of the nearest town of Belluno in the confining Veneto region.

All the other valleys of Trentino are reached by the extension of these networks, which are quite dense, excluding the one of the Valsugana, Alta Valsugana and Tesino valleys (Rete 3), which is a generic network for many educational purposes, not only for the improvement of the relationships among schools in guidance activities. The network of the Vallagarina valley, Rovereto and Altipiani cimbri (Rete 7) is the biggest one, with 22 schools taking part into the network, which presents a central group of more active schools and other schools, which are more at the periphery of the network. The patterns of collaborations of the other four

networks are quite similar, presenting a dense network, where each school is quite equal in her positioning in relation to the others.

FIG. 2. *Formal networks of schools for career and school guidance in Trentino*



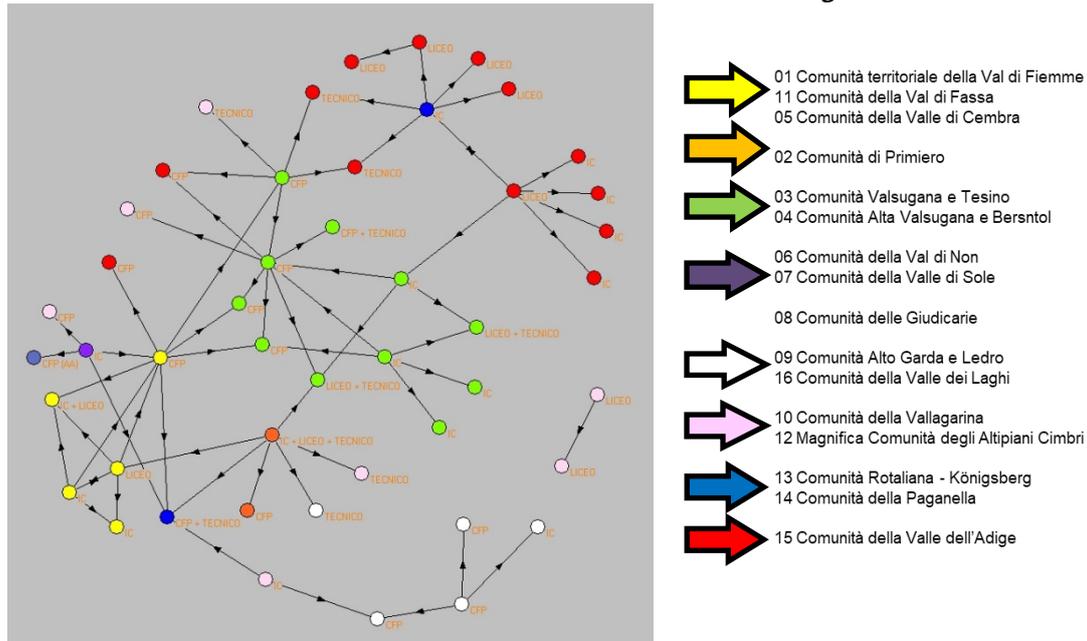
Source: Own elaboration

3.2.2 Informal networks

In the questionnaire, respondents were asked about the participation of their schools into informal networks for guidance activities too. To also detect the informal networks among schools of the whole province, was strategical to understand even better the functioning and the limits of the formal ones. In very general terms, it can be said that the informal is present where the formal is missing, as expected, but also that some of the schools already involved in their local formal networks are also connected to other schools outside their network, even schools, which are quite distant apart. This is partly due to the fact that, there are institutes, which presents a unique educational offer for the whole province and need to enter in contact to all those students, who are interested in that specific educational path, and are willing to travel, or to move, to the distant place, where the school is located.

The Fig. 3 depicts the informal network in a very reticular structure, where red points represent schools in and around the town of Trento, green ones the schools of Valsugana and Tesino, showing how the informal integrate in this case the formal network, which was the only one based on a very generic agreement. The connections between Fiemme, Fassa, Cembra and Primiero valleys are also noticeably clear. The presence of schools of the other 5 formal networks are limited to few schools or even absent, as in the case of the network of Giudicarie valley, which is the only one completely closed to the outside.

FIG. 3. *Informal networks of schools for career and school guidance in Trentino*



Source: Own elaboration

Given that, this was a first detection of the structure of the informal and formal networks in the whole province after 5 years, the results should be confirmed, firstly by the follow-up survey, and secondly, discussed in-depth with the reference teachers of each network, to be considered reliable. In the case that such a structure will be in part confirmed or has been changed after the closure of the schools due to the pandemic, will allow us to make some hypotheses to understand the functioning of these networks and the strategies of the schools (formal/informal) to reach the information they need for their guidance activities. This research was the first step in trying to understand the complexity of such networks.

It is also interesting to grasp, from the Fig. 3, that the typologies of schools that are more active, in this informal network, are the lower secondary schools (IC) and the VET schools (CFP/IFP). They occupy most of the brokers positions in the networks, this means, they have a key role in connecting others, who are unconnected. The flow and direction of the relationships are also important, only two relationships are here reciprocated, the others are directed. This means that, there can be power imbalances between the schools, or difficulties in recognising who is collaborating with whom from both sides.

Conclusion

In the conclusion, some final considerations about future perspectives and possible ways of improving the whole school guidance system of the Autonomous Province of Trento, based on the collected data, need to be delineated.

Firstly, the detailed knowledge about the recent practices and projects carried out by the school before the COVID-19 pandemic, allows us to recognise which kind of support schools could need to improve/integrate or adapt these projects to the new context after the pandemic. The results of the follow-up will let us understand how the difficult situation has changed the working ways of the schools, so to have a more precise picture of the situation.

Secondly, the first recognition/reconstruction of the patterns of collaboration between the schools, through a social network analysis, needs to be monitored during the time, to have more reliable data about the networks' strategies adopted by the schools to get the relevant information they need to better orientate their students. The capacities to work in teams and networks are underestimated by the schools, because they are not so easy to be recognised.

The specific training for the reference teachers for career and school guidance should be tailored to their local needs, but also be able to let them reflect about the opportunities offered in entering in more complex and informal networks in a provincial level, in which they can freely share their experience and learn from the previous experience of their colleagues, as a community of practice.

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Gender Segregation in Secondary Education: The Role of Teachers' School Guidance

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ABSTRACT: *The aim of the following paper is to investigate the existence of effects exercised by scholastic agents in the relationship between ascribed characteristics and educational inequalities. Specifically, the correlations between students' gender and the guidance councils assigned to them by teachers at the end of the middle school has been studied, as the association between the advice received and the choice of the secondary school to attend. Both these correlations were confirmed: we can conclude that middle school's teachers play an active role in the reproduction of gender educational inequalities and gender segregation in secondary education. The results are relevant in order to broad the knowledge of school's role in the reproduction of inequalities, which has not been so far sufficiently analyzed with regard to the gender dimension.*

KEYWORDS: *gender segregation, gender stereotypes, guidance advice, teachers*

Introduction

The scholastic differences between girls and boys show how gender, although not at the heart of the debate on educational inequalities, has instead a great influence on the opportunities of both boys and girls, creating different pathways and school meanings and therefore horizontal segregation between them.

Since the educational qualification strongly affects the social destinies of individuals (OECD, 2016), the validity of one's school path, in terms of length of the same, prestige of the school attended and performance, is related to professional and occupational success. This conclusion has to be adjusted when analyzing data relating to the differences between men and women in terms of educational performances and work outcomes. Girls are distinguished by a higher frequency of lycées schools, they represent the majority among both university students and graduates, and they graduate with higher grades (Almalaurea, 2018).

Although, therefore, girls are generally the students who carry out better educational paths, women's participation in the labour market points out that education does not bring them professional and

employment advantages. This fact is confirmed by ISTAT (2015), according to which the salary differentials of education are greater for men than for women. A higher educational qualification (in this case degree compared to diploma) therefore makes more for men than for women in terms of pay. Although women get higher degree grades than men, even on equal terms (Cantalini, 2015), the possession of a tertiary title makes more for the latter: the best educational opportunities and results do not ensure better professional and employment outcomes for women. Analyzing the gap between males and females in relation to pay and education, the difference can be partly explained by the fact that boys and girls, even for the same school performance, attend different high schools and university majors. These differentiated choices shape their future job opportunities: horizontal segregation between different school settings therefore helps to increase inequalities between males and females. In fact, gender imbalances found in different disciplines are reflected in the labour market in relation to different salaries (OECD, 2016). Students with different socio-economic background make different choices about which secondary school path to attend: those from higher social classes prefer the lycées (considered more prestigious and demanding and more related to the enrolment in university) and, on the contrary, children with a lower background are oriented more towards technical and professional institutes (Romito, 2014). The differences between girls and boys are not so much about the type of path (although differences are also found in this case) as well as the address, i.e. the subjects taught in the different educational paths. Girls and boys opt for different school paths in a way that is not random but linked to the characteristics they believe inherent in their gender. Influenced by gender socialization, the study choices of girls and boys follow the traditional gender stereotypes, resulting in a persistent horizontal segregation both in the training field and in the labour market (GenderEd, 2018; Sartori, 2009; Biemmi, Leonelli, 2016).

However, it can be hypothesized that another effect, as a result of the action of educational institutions, operates in the distribution of girls and boys in different educational paths, through the addressing of middle school's students towards specific high school's paths and the orientation of high school students towards specific academic paths. For students near the end of a school path and the choice of the next, in fact, there are activities aimed at presenting the different educational options and at making students realize which path is the best for them. These guidance activities can have consequences in the reproduction of gender segregation.

The effect of guidance practices is the focus of this analysis. Sociological research has not so far included in the analysis of educational inequalities reproduced by school guidance the gender dimension, focusing in particular on the theme of social classes (Argentin et al., 2017 Romito et. al, 2014). The inclusion of a gender perspective can bring new conclusions to the research of educational inequalities.

The issue of gender segregation is instead studied extensively at the university level, where males and females are divided into different majors. Cantalini (2015) assess that the unequal distribution of men and women in university fields majors contributes to explain a significant part, about 15%, of gender wage inequalities. A role equally important is the fact that women work fewer hours than men and that they are more frequently employed in executive-administrative positions, less paid. About half of the disadvantage remains unfolded, however, indicating discriminatory attitudes. Graduates in disciplines that provide specific technical-scientific human capital, three years after the degree, present high incomes, while graduates in faculties characterized by the transmission of generic, cultural and communicative human capital receive relatively low wages. Girls represent the majority in the latter faculties and are generally under-represented in the scientific ones. The over-represented presence of women in the academics preparing for low-paying occupations is one of the causes that determine women's lower pay.

Surprisingly, with regard to the issue of horizontal gender segregation in education, there is little research related to secondary schools, and none about the role of school guidance, even if high schools are found to be institutions with strong differences. In high school gender segregation is very high, especially in some more career-oriented fields considered to be predominantly male or female. In Italy there is also a particular low rate of enrolment at university compared to other countries. The choice of high school has therefore an important role in determining the future of students. Those who choose to continue their studies generally remain in the same field as secondary school (Almalaurea, 2018), while those who do not continue their studies enter the labour market with the high school's diploma. In this analysis, therefore, an attempt was made to fill a gap in the literature of educational and gender inequalities: the study of school's effect on the segregation between boys and girls in high schools can bring benefits both to the analysis of the role of the school in the reproduction of social inequalities, not yet recognized by teachers themselves (GenEdu, 2018), and in the theme of gender educational inequalities, today not central in sociological research.

Methods and data

Two data sources were used for two different objectives:

- A dataset built with MIUR (National Student Registry) and INVALSI data, with a sample of about 52,000 students who have completed middle school in 2013/2014;
- 25 semi-structured interviews with privileged witnesses of the end of lower secondary school's guidance processes.

The first source of data, through multivariate models, was used to identify any effects of school institution on the amplification of gender segregation through the guidance advice. Through the available data it is possible to carry out a longitudinal analysis that for the same individual knows gender, performance, guidance advice and actual school's choice. It was therefore possible to identify the correlation between students' gender and the guidance advice received, researching the presence of gender-based distortions in this activity, net of the educational performance of males and females. Data from interviews with teachers highlighted the dynamics of guidance council from the point of view of the actors who organize it and submit it to students, deepening the results of quantitative analysis. The use of mixed methods permits to achieve more complete and justifiable answers to different research questions in a single study, through the integration of more sources and the union of the strengths of qualitative and quantitative analysis (Clark, Ivankova, 2016). The sample interviewed is non-probabilistic, however, this limit does not affect the main objective, that is to deepen the results of the quantitative analysis by bringing the point of view of the actors examined. It is not intended to generalize respondents' statements to the entire teaching population but only to investigate the ways in which some teachers relate to gender differences. An attempt was made, within the limits, to have a heterogeneous sample by gender, age, province of the school, seniority in the profession and subject taught. The type of sampling used was avalanche sampling: those already recruited for interviews, identified through networks of direct acquaintance, were asked to provide contacts potentially interested. The qualitative method used is the discursive interview, in which the interaction is defined in the content, but the ways in which the interlocution takes shape are not predetermined and are defined during the interview (Cardano, 2011).

Quantitative Analysis

It is initially estimated the association between gender and the likelihood of receiving three types of guidance advice:

1. towards lycées;
2. towards highly female-segregated addresses: linguistic lyceum, social sciences lyceum, economic social sciences lyceum and classical lyceum;
3. towards highly male-segregated addresses: technologic technical institutes, industrial professional institutes, applied sciences scientific lyceum and sport scientific lyceum.

Having at disposal data relating only to the sectors of technical and professional institutes, and not to specific addresses, it was not possible to include technical and professional addresses that report a massive presence of girls. Nevertheless, the guidance council towards highly

feminine addresses differs from the one towards lyceum, as the latter also includes artistic, musical and scientific lycées.

In the impossibility of making causal estimates, an attempt is made to estimate robust associations between the variables analyzed, checking at least for observable variables in the database that could distort the binding of interest. This analysis uses binomial logistic regression models that search for associations net of previous and concurrent variables relevant to the subject of study. To investigate the association between gender and guidance council, three models are estimated, using different sets of control variables:

- model 0: association between gender and advice received without control;
- model 1: relevant concurrent variables are included, as region of the school, migration (Italians or foreigners of first or second generation) and sociocultural condition (highest parents' degree) of students;
- model 2: model 1 + indicative control variables of student performance, like marks obtained in the final eighth-grade exam and in Italian and mathematics subjects during the scholastic year, scores obtained at the standardized INVALSI tests of Italian and mathematics.

Model 2 looks at the association between gender and guidance council net of the different performance of males and females, in different disciplines and according to meters of measurement (grades and scores) that considers the cognitive dimension of students and beyond.

TAB. 1. Councils to lycées received by males and females (sample data, values %)

<i>Lyceum advice</i>	<i>Females</i>	<i>Males</i>	<i>Total</i>
Yes	56.7	30.7	43.4
No	43.3	69.3	56.6
Total	100	100	100

From this table, which shows the percentages of girls and boys receiving advice orientation towards a lyceum, it emerges that within the sample analyzed girls are the ones who more frequently obtain this advice: more than half of girls are addressed to lycées, against less than a third of the boys. These results are consistent with the data of the actual attendance of lycées. Using a type 0 model it results that girls are about 26% more likely to receive lycées oriented advice than boys. Using model 1 the correlation among the main variables varies only slightly. When model 2 is analyzed, including several measures of school performance, the gap decreases, reaching 15%. Even considering the sample's uncertainty, the difference is relevant.

TAB. 1. Predicted probability of receiving lycées advice (marginal on logit model; n=29,510; values %), 95% confidence interval

	<i>Point estimate</i>	<i>Lower limit</i>	<i>Upper limit</i>
Males	37.5	36.9	38.2
Females	53.0	52.3	53.6

Performance therefore explains a part of the difference between males and females, but do not gap completely. We know that girls generally perform better, but this difference does not fully explain the gap in being oriented towards lycées by teachers. The formulation of the guidance council could also include characteristics of students that are difficult to observe, such as commitment to school activities, classroom participation and other behaviors that denote dedication. These characteristics could therefore be found more in female, or (or jointly) teachers may consider girls to be naturally predisposed to study. The fact that teachers more often address girls towards lycées can therefore be partly explained by the stereotypes that concern them? In any case, the results show that males are less likely to be directed towards lycées by their teachers, and this could result in an effective lower enrolment rate of boys in this schools, if enrolments were influenced by councils. If that was true, boys would then report a disadvantage in educational terms, given that the attendance of lycées generally leads to a greater probability of finishing high school and attend university. If the guidance board reflected the wishes of male pupils – who may not want to enroll in lycées – and did not anticipate them, the actions of teachers would anyway not act as an incentive so that boys can feel able to face the lyceum choice.

It should be remembered, however, that students are not equally distributed in all lycées addresses by gender: in fact, girls are 84% in social sciences ones and 43% in scientific ones. Some addresses have a great majority of girls enrolled: the guidance advice to four lycées, (linguistic, classical, social sciences and economic social sciences) is now being analyzed. In the sample used, in the linguistic lyceum girls exceed about 3.7 times boys, in the social sciences one, considered together with the economic option, girls are present more than six times as much as boys and in the classical one girls are 2.4 times than boys. Almost half of the girls in the sample, 40%, received guidance advice towards one of these addresses, against 11% of boys.

TAB. 3. Guidance advice on female addresses received from males and females (sample value, data %)

<i>Female addresses advice</i>	<i>Females</i>	<i>Males</i>	<i>TOT</i>
Yes	40.0	10.9	25.2
No	60.0	89.1	74.8
Tot	100	100	100

Using model 2 the correlation decreases (while model 1 produces little changes): girls are 36% likely to be directed towards a «girls' school», while boys are 14% likely.

Even by checking for different measures of school performance, teachers direct girls much more often to those addresses that already have a high level of gender segregation in their favor.

TAB. 4. Predicted probability of receiving guidance advice towards female-segregated addresses (marginal on logit model; n=29,551, values %), 95% confidence interval

	<i>Point estimate</i>	<i>Lower limit</i>	<i>Upper limit</i>
Males	14.0	13.4	14.6
Females	36.0	35.4	36.8

If we consider the fact that some of these schools' main subjects are not taught in middle schools (such as Latin and Greek for classical lyceum and pedagogy, sociology, psychology and anthropology in the social sciences one) is even more difficult to think that teachers address boys and girls to these addresses differently because of performances. Keeping under control the performance in different disciplines and with several yards of measurement, we can't even say that girls get more advice on these pathways, which are all lycées, because they have better grades.

Finally, considering the advice to addresses attended mainly by male students, the following analysis will include the scientific lyceum – applied sciences, the scientific lyceum – sport section, the technological sector of technical institutes and the Industry and Crafts sector of vocational schools. These sectors have a high degree of segregation in favor of boys: in the sample, males are 3.7 times girls in the professional industry and crafts and 4 times them in technology technical institutes. The options of the scientific lyceum, and especially the sports section, do not collect much of the total sample of students, since together they collect thousand students (with a gap between males and females greater than 2), but are included as lycées addresses with the highest male presence.

TAB. 5. Guidance advice on male addresses received from males and females (sample value, data %)

<i>Male addresses advice</i>	<i>Females</i>	<i>Males</i>	<i>Total</i>
Yes	13.8	44.7	70.4
No	86.2	55.3	29.6
Total	100	100	100

Within the sample almost half of the boys received guidance advices towards these addresses, against just over a tenth of the girls.

Implementing model 1 there is no reduction in the gender gap. Finally, using model 2, the gap is slightly reduced: boys have a 42% and girls a 15% chance to be directed to the listed routes. Boys are recommended much more than girls (+27%) even net of many conditions. This is a difference that goes far beyond the uncertainty of the sample.

TAB. 6. Predicted probability of receiving guidance advice towards gender-segregated male addresses (marginal on logit model; n=29,519), 95% confidence interval

	<i>Point estimate</i>	<i>Lower limit</i>	<i>Upper limit</i>
Males	42.4	41.6	43.2
Females	14.8	14.2	15.4

A condition that has not affected particularly this association is the performance in mathematics: the addresses listed are focused on technical/scientific subjects and it might be thought that boys receive more advices because they generally are better in mathematics. Instead, looking at the math grades and INVALSI results, the gap between males and females in receiving advice oriented to these addresses changes only by a few percentage points. In this case too, therefore, one wonders why teachers address boys and girls with similar school performance towards institutions teaching different subjects.

The unexplained discrepancy consists in the fact that teachers are conditioned by the will of the pupils, of whom they may know the preferences, gender stereotypes or both? In any case, the guidance councils are adherent to the reality of gender segregation in Italian high schools: teachers therefore certainly do not oppose it but they could reproduce it.

Three analyses, here not reported, confirm that guidance council actually affects high school enrollment. These are not causal parameters, but convergent robust associations in the results, even net of many control variables. Advices, which are distorted in relation to students' gender, would therefore contribute to separate boys and girls into different secondary schools, within which different subjects are taught and different interests, skills and visions of the future are developed.

Qualitative Analysis

Through qualitative interviews with teachers, it was investigated how students' gender influences the formulation of guidance advices. Although respondents expressed considerations related to a wide range of ways of evaluating the issue of gender differences, it seems that, perhaps even without being fully aware, teachers make distinctions

between males and females. This result is not surprising, given that this dimension has pervasive influences on each of us in our daily activities.

The first question asked teachers if girls frequently think of enrolling in highly masculine addresses and vice versa, if boys think of highly feminine addresses (if requested by the interviewees, addresses with a great gender segregation). Almost all teachers responded negatively: they therefore have in mind that gender segregation in high schools exists. In fact, the majority reports that they rarely witnessed «counter-current» choices and that usually males and females orient themselves on different paths:

There are schools that are chosen almost exclusively by males or almost exclusively by females and this is an undoubted fact, we see these choices each year (Interviewed #7)

The interviews show a difference between technical – professional institutes and lycées:

When it comes to lyceum there is no such distinction between boys and girls [...] maybe obviously when it comes to a professional, like mechatronics, maybe I won't address here a girl (Interviewed #1)

Some respondents also note gender differences between lycées, but when they talk about typically female or male choices, the most cited institutions are hairdresser and beautician for females and mechanic and electrician technicians and professional for males. As a result, some professions are conceived as almost suitable for exclusively men or women, while a cultural path and a future enrollment in university are not prerogative of one gender.

Aware that certain schools are preferred by girls or boys, how do teachers explain segregation? Some respondents say that school differences between boys and girls are decreasing or completely scaled compared to the past. Others say that there are different capacities according to gender. These are the same and in line with previous surveys on the subject of teachers and gender stereotypes:

Surely the attitude to sport is predominantly male [...] in technology guys are more capable in practice, in the theoretical part girls are better (Interviewed #8)

Females are more capable in literary subjects (Interviewed #22).

Many teachers also highlight the best educational skills (in terms of commitment and maturity) of girls compared to boys, who are painted as less interested in school and childish. However, some respondents point out that this difference is due to the specific phase of development of pupils. Some teachers also report that the difficulty of enrolling in an institution that is not congruent to one's gender is a peculiarity of boys, while girls are less affected (today) by this issue:

A lot of girls started doing science and then engineering, so there's gender equality on the female part, but it's unlikely to find a guy who wants to study social sciences, because then he doesn't want to become a teacher (Interviewed #2),

Male students are therefore doubly disadvantaged in their scholastic experience: they have the worst educational outcomes and a lower propensity to study, and more difficulties in overcoming gender conditioning.

If some teachers find differences between boys and girls, and associate them with better results in different subjects, other teachers try to find different explanations to gender segregation, as the existence of preconceptions by students and their families, of a fear on the part of young pupils in making choices against the current or in the influence of friends on scholastic choices. Teachers interviewed do not therefore consider school and themselves as causing different school choices between boys and girls.

The recognition by the majority of respondents of the existence of gender-differentiated choices does not mean, however, concern about this phenomenon. Many say they are not interested in countering it:

Absolutely no, I don't worry about that, it's just a thing in their (students') head (Interviewed #24)

The majority of teachers interviewed do not therefore think of gender segregation as a problematic phenomenon, considering it perhaps a natural consequence of the different predispositions of boys and girls. Others, mainly because interested in the subject, declare themselves concerned, and two teachers have already realized projects about gender stereotypes.

Of the sample interviewed, teachers already interested in this topic represent the minority, while others, faced with explicit questions about how gender dimension affects students' choices and school life, conclude that gender segregation in higher education is indeed a problem to be addressed. These teachers find particularly difficult to guide some girls, which they say are suitable for technical courses, because they find technical institutes teachings to be specifically for boys, thus confirming both the thought that males and females have different capabilities and the fact that they must be oriented towards different directions. An interviewee also mentions the fact that, in addition to the subjects, even the composition of the male-dominated technical classes may not be suitable for a girl. Other teachers say the same thing, but about girls defined «fragile» directed towards professionals. Another concern is related to girls from foreign families who, according to some interviewees, are limited by their parents in their school choices.

If the teachers interviewed show concerns about the issue of gender educational inequalities, it seems that these are oriented above all towards certain specific and minority categories of their students,

specifically if female and directed towards technicians and professionals or of foreign origin.

Few teachers interviewed think school can have negative effects on gender segregation in high schools. In fact, only few claim to consider the gender of their pupils when they formulate the guidance advice, or to notice this trend in colleagues:

Um I'd say yes, it's hard to say as guidance advice to a girl «Go to a mechanic institute», to a girl we say «Go to a beautician, hairdresser or cooking institute» (Interviewed #19).

The majority, on the other hand, do not find differentiated behavior by teachers, and say they are not conditioned by the gender of the students. These teachers therefore do not think that the school and its agents can have any effects in reproducing gender segregation in high schools, a phenomenon that is therefore caused by the choices of students and their families.

It would therefore seem that, while declaring and thinking otherwise, the gender of students influences the work of some teachers: this may result from the fact that we are used to believing that, at least in Italy, gender inequality is not a real problem, or at least it doesn't affect the daily lives of the majority of people. This can bring a lack of awareness of how, on the contrary, everyone is, in some way, influenced by the dimension of the gender. It is also possible that having asked such direct questions, evidently aimed at discovering whether teachers are also active players in the production of gender segregation in high schools, respondents have answered in a way that they consider being socially accepted.

In conclusion, it can be said that the teachers interviewed are not particularly concerned about gender segregation in secondary addresses and, when they are, they generally don't think of themselves as actors who influence students. However, almost all the teachers have experienced the fact that boys and girls choose different high school's addresses. Teachers interviewed have different attitudes to the theme of gender inequalities. In any case, few identify school and teachers as possible cause of the reproduction of these inequalities, imputing to students and families stereotyped choices. Teachers who declare themselves concerned about this phenomenon or that have already carried out or participated in related projects are especially interested in girls' issues. This means that respondents, when and if they think about gender inequalities, find their negative effects only on the female component and ignore what happens to males, while claiming that boys have disadvantages in terms of maturity, development and commitment. There is therefore a lack of comprehensive understanding of how gender inequalities and stereotypes affect negatively both sides.

Some professors interviewed, when the questions bring up topics about gender segregation in high schools, seem to be starting to questions about the subject and how school can have a positive impact: this could

be a good start to focus teachers' attention on the ways in which their actions can influence, both positively and negatively, the choices of boys and girls.

Conclusion

This analysis shows how both girls and boys are affected by gender scholastic inequalities: boys are generally considered less polite and prepared, have more difficulties in enroll in «feminine» school and receive less advices to lycées. Girls though enroll in high schools (first) and universities and careers (then) that lead to disadvantages in terms of employment and profitability, thus reducing the returns to their increased investment in instruction.

The results demonstrate the existence and relevance of gender effects related to the guidance council, which have already been noted with regard to social origins. Guidance council is therefore a tool of amplification of inequalities and this analysis brings new evidence in this regard, emphasizing its distortion also with respect to the gender of students.

Teachers seem not to be aware of this. To resolve this contradiction, it may be useful to involve teachers themselves in projects aimed at highlight their role in the reproduction of gender segregation and to organize guidance activities that, on the contrary, actively discourage choices made only in passive compliance with one's gender.

Guidance activities, which at present are not regulated through national directives but entrusted to individual schools and teachers, should therefore be monitored and reorganized in such a way as to disregard stereotyped visions of the world.

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**The Disability Studies Approach
in the Analysis of Educational Inequalities
and in the Structuring
of Contrasting Measures**

Lived Experience of Education and Relationships for Italian Adolescents with Dyslexia During One Year COVID-19 Pandemic

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ABSTRACT: *In Lombardia the emergency event in world of education started on February 24th in Italy, when firsts universities and school closed, because of starting of COVID-19 pandemic. Children were confined both at home with few attentions of public opinion and scientific research (Musso, Cassibba, 2020). The study aimed at exploring lived experience of adolescents, listening to their voices and from an insider point of view, both in education and relationship, throughout the first year of pandemic restriction in Italy.*

Using Interpretative Phenomenological Analysis (Smith et al., 2009), data are being collected and analysed, since May 2020, involving in recursive semi-structured interviews 17 students of Secondary school (7 in 1st Grade, 10 in 2nd grade), who previously lived also the condition «defined» as Specific Learning Disabilities, such as dyslexia (MacDonald, 2009; see Mortari, 2010; Mortari, Saiani, 2013).

Preliminary results suggest that many students have used the first quarantine (March-May 2020) to develop their approach to learning e reflexivity with personal advantages; all they also felt less difficulties than previously, thanks to extensive and inclusive use of technology, less time required for school, and personal strategies. More, they observed teacher in extreme difficulty in teaching through technology, such as they had lived the first period after dyslexia diagnosis, feeling incapable to learn because of some concrete barriers.

Situation changed in Dad (distance schooling) during autumn 2020, until the last period (Feb-March 2020), where unpredictable timing of school test and work, a large amount of homeworks, greater unsupported difficulties and a break of mutual trust with teachers sounds challenge and discourage adolescents' hope to come out of a general pandemic situation, to succeed and be motivated in learning.

This study, actually developing, open in deep how adolescents are living this unprecedented period, offering to pedagogic reflection strategies they developed or suggested for all the class from their own experience. Moreover, this research is having a deep transformative impact on participants, who want to share their experience but also find in it a sustain to reflection and emotional elaboration and a motivation.

In the pandemic period in which each student has a special need because of a new challenging context of living and experiencing, because of distance, of sufferance in social, familiar or psychological context, can this pedagogical reflection – conducted from the point of view of students accustomed to use technology, to reflect and to make an effort to find different ways and new

motivation to succeed in learning – be useful towards an inclusive re-projection of learning and living education contexts?

KEYWORDS: *adolescents, lived experience, dyslexia, COVID-19 pandemic, IPA*

In Lombardia the emergency event in world of education started on February 24th in Italy, when as firsts universities and school closed, because of starting of COVID-19 pandemic.

Children started a long confining at home with few attentions of public opinion and scientific research (Musso, Cassibba, 2020).

COVID-19 was recognized as a new disease¹ and on March 11th OMS declared pandemic² for its extension in the world.

In Italy on February 25th there is the first reference to distance schooling³ and then a first definition on March 17th ⁴ as

Distance teaching activities, like any teaching activity, to be such, intend to propose the reasoned and guided construction of knowledge through an interaction between teachers and pupils. Whatever the means through which teaching is exercised, the aims and principles do not change. [...] The direct or indirect connection, immediate or deferred, through videoconferences, videolessons, group chats; the reasoned transmission of teaching materials, through the uploading of the same on digital platforms and the use of class registers in all their communication and teaching support functions, with subsequent re-elaboration and discussion operated directly or indirectly with the teacher, interaction on truly digital educational interactive systems and apps: all this is distance learning [...] The mere sending of materials or the mere assignment of tasks, which are not preceded by an explanation relating to the contents considered or which do not require a subsequent intervention of clarification or restitution by the teacher, they must be abandoned, because they lack of elements that could stimulate learning (MIUR, Nota prot. 17 March 2020, 3, translated by the author)

In this definition is important to notice the attention to interaction, discussion, rework with teacher and schoolmates. More, there is an underlining to students with disability e Specific Learning Disabilities, noticing in advance that the use of technology guarantees access to these students more trained to the use of it, but recalling the importance of

¹ <https://www.epicentro.iss.it/coronavirus/pdf/sars-cov-2-traduzione-RRA-ECDC-12-marzo-2020.pdf>

²

<http://www.salute.gov.it/portale/nuovocoronavirus/dettaglioNotizieNuovoCoronavirus.jsp?menu=notizieandid=4209>

³ DPCM del 25 febbraio 2020, «Ulteriori disposizioni attuative del decreto-legge 23 febbraio 2020, n. 6, recante misure urgenti in materia di contenimento e gestione dell'emergenza epidemiologica da COVID-19»

⁴MIUR, Nota prot. Del 17 marzo 2020

providing assistive tools and measures (MIUR, Nota prot. Del 17 marzo 2020) as provided by Law 170/2010.

With new emergencies starting in autumn 2020 on November 3rd is established a new system of different coloured zones (red for high emergence, orange for medium, yellow for low level) with different rules depending of progression of virus among population and situation of medical and hospital support. Lombardia becomes a Red Zone and thus remains until January 20th, and in the same government act ⁵ it is provided for SpLD students to attend lesson in presence with a little group of schoolmates.

Specific Learning Disabilities in Italy is defined by Consensus Conference (2006-2007) and Guidelines of Istituto Superiore di Sanità (2011) as a «a specific domain of skill in a meaningful but circumscribed way, leaving the general intellectual functioning preserved»⁶, impacting on automation of reading, writing and calculating and identification takes place through a clinical diagnosis comparing on standardized values. International classification such as DSM V define them as neurodevelopmental disorders.

These guidelines fundamental in an historical process to give a name and understand the origin of the difficulties of such children with very difficult scholar paths, reached with Consensus and National Law (170/2010) between 2006 and 2010, risk on the other hand that this labelling policy that need diagnosis to give support, also to feed a «disabling» society (Oliver, 1990; D'Alessio et al., 2013). In Italy SpLD at school is supported with Law 170/2010 and Guidelines (2011) which requires to teachers an annual Didactical Personalized Plan to organize measures, assistive tools and didactical organization to guarantee learning; constituting a fundamental point to guarantee the right to learning which a suitable approach but that risks to create a visible distinction among schoolmates (Lampugnani, 2020) and can conduct students with SpLDs to be subjected to bullying and to feel shame, inadequacy and low self-esteem (Lampugnani, 2019); it is also evidenced an high correlation with risk of psychopathology, such as anxiety disorders, depression, scholar anxiety disturbance, as review by Vecchini (2010).

Beyond a medical approach, we can consider SpLD following the social model (Riddick, 2001), difficulties are not descending by SpLD itself, apart for the specific aspects, but because of the attitude and consideration of social context – what society and school await as a standard for student's

⁵ DPCM 3 novembre 2020, art. 1 comma 9 lett. s), nota MI prot. 1990 del 5 novembre 2020

⁶ Associazione Italiana Dislessia, *Consensus Conference. Disturbi evolutivi specifici di apprendimento – Raccomandazioni per la pratica clinica definite con il metodo della Consensus Conference, Montecatini Terme, 22-23 settembre 2006, Milano, 26 gennaio 2007, 2*, translated by the author.

learning modalities, specifically looking at time and performance (Riddick, 2001). Considering this approach, the research about lived experiences among Italian students SpLD show that it can be not only an obstacle, temporary or permanent, but also be lived as an advantage because of a better awareness reached by such students regarding methodology to approach study, use of technology and endurance towards difficulties that bring at higher successes both in school performance and project of life (Lampugnani, 2019); but students with SpLD can be also considered unfit to study or to singular discipline such as Mathematics (ivi). In this approach the change of the school and society context toward SpLDs is important as well as self-advocacy (Oliver, 1990), facilitating and promoting awareness and involving of people with these *characteristics* in decision making and view by SpLD people and students as well, as recommended in Disability Studies approach to build a more inclusive society.

The present study aimed at exploring lived experience of adolescents, listening to their voices and from an insider point of view, both in education and relationship, throughout the first year of pandemic restriction in Italy.

It was intended to develop an inclusive research, involving e listening directly to perspectives and voices of adolescents, considered like «subjects» who develop the research with (Kottak, 2006; cfr. Corbetta, 1999; Schwartz, Jacobs, 1987), and not like an «objective reality» to study.

The research used the approach of Interpretative Phenomenological Analysis (Smith et al., 2009), being interested in the description of this unique phenomenon made by a person living in it from his or her singular capability of giving significance. This methodology allow to explore in deep the subjective relationship between the subject and his/her experience of world, in the way the person experience the world in a subjective glance, emerging through a process of co-construction between the person participant to the research and the researcher (Sità, 2012; Bertolini, Caronia, 2015; Mortari, 2010; Mortari, Saiani, 2013). This interpretative approach looks at reality as a co-construction that builds meanings in the sharing through participant and researcher. IPA methodology was specifically developed to be used with adolescents with a SpLD developed in a previous research with similar methodology (Lampugnani, 2019; 2018; 2016).

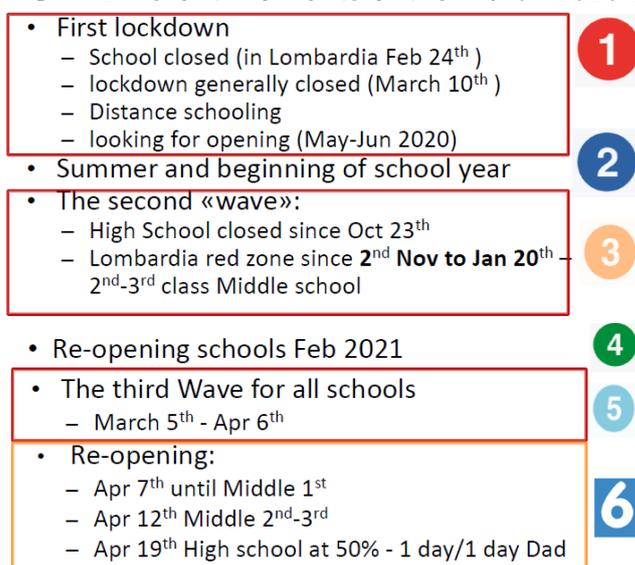
Participants are 17 students of Secondary school (7 in 1st Grade, 10 in 2nd grade), who previously lived also the condition «defined» as Specific Learning Disabilities, such as dyslexia. All participant belongs to a pedagogical extra-scholar support project in Talenti fra le Nuvole onlus, a social cooperative in Milan. Main objective of the project, provided privately by parents, is the learning a personalized and fitted use of technology and methodology to learn and the awareness, acceptance and ability to cope with their SpLD in their scholar and life contexts. About ethic matter, after parents' signing informed consent, research was presented to each participant student both in objectives and in

methodology about the contribution required. It was an important passage also to involve them into the meaning and objective of the research.

Researcher for all the period observed could observe in a participative research because conducting the project. For this purpose, was particularly important the use of diary of research and a work of researcher for awareness of point of view. This observation was particularly important in a first period to decide the line and objective of research, to develop specific questions of interview, even because in the first lockdown adolescents didn't talk and express orally almost anything, apart for some relief from not going at school. For the next part of the year such observation was important to divide into different periods and to keep main differences in lived experience from what was emerging from the first part – and so decide also which and when collect new data.

We divided the time going from March 2020 to March 2021 in six main parts (fig.1): the first lockdown from February 24th to June 2nd 2020 (divided in three parts: February 24th to March 8th there was the closing of school in Lombardia e some localized lockdown and attention in Italy; from March 9th to middle of April a very strict national lockdown; from April to June 2th lockdown continued but opening was proximate); there has been summer and beginning of school year, from June 3th to October 15th; then arrived a «second wave», High School closed since Oct 23th 2020, Lombardia remained in red zone since November 2nd to January 20th, involving in the closing also 2nd and 3rd class Middle school. In Lombardia from January 20th to March 4th 2nd and 3rd class Middle school came back at school, while High School returned with a 50% participation, with different organization depending on schools (half class per day, or alternated day or weeks in presence for each class); in Lombardia there was also a third wave that required the closure of all schools, from nursery to High school, from March 5th – to April 6th.

FIG. 1. Different moments of the March 2020-March 2021



After a first part in March-April 2020 of participant observation on the field of research, defining the question and methodology of research, in the period May 3rd (opening) and June 8th (end of school) 2020 individual semi structured interviews were conducted through web platform Google Meet and recorded.

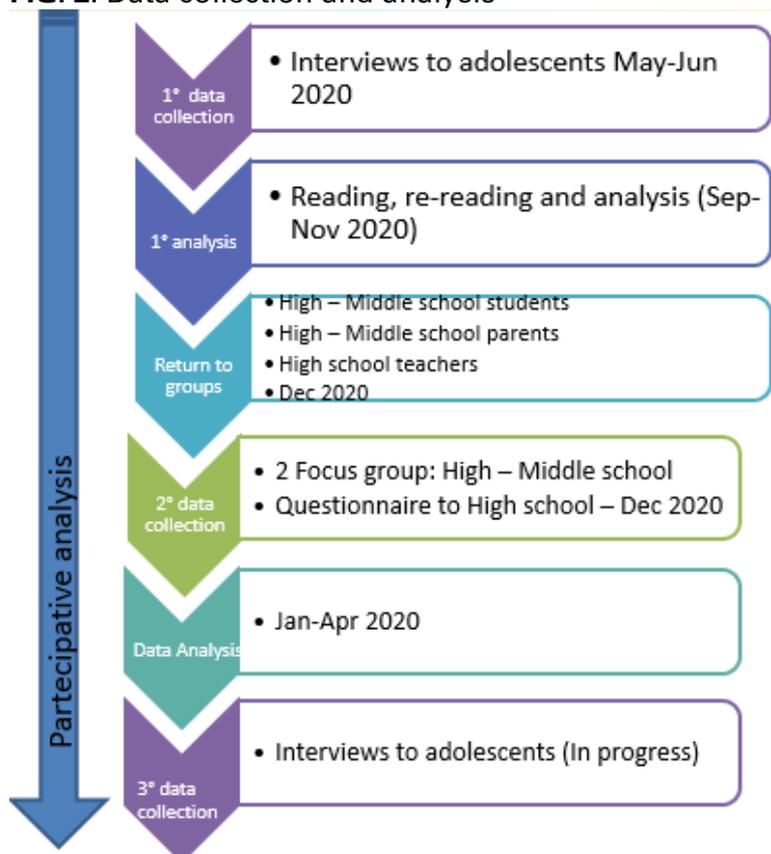
As can be seen in Fig 2, the first individual interviews between May 4th 2020 (first slackening of the first lockdown) to June 8th 2020 (the end of school); the second data collection about the autumn 2020, in form of focus group, after the return of interpretation in December 2020; the third is being developed in September 2020 and will regard from January to August 2021.

Data analysis was conducted in the period July-November 2020, then was prepared two restitutions, one for participants of High school one for Middle school; and two more for their parents.

In December 2020, after restitutions, a new data collection was conducted using a written form with few questions, aimed to make emerge the differences between lived experience in Spring and in Autumn and to the usefulness of the process and results of research in general and for their personal experience.

In Spring 2021 data weren't collected because of several factors: some emergencies to support were developing among students, so that it was not ethics, too close to the problem and difficult for time and attention to dedicate.

FIG. 2. Data collection and analysis



Results of the research

The emerging theme regarding lived experiences about the first period (February 24th to June 2nd 2020) are the change of daily routines connected to changes of materiality, relationships with family, schoolmates, friends, group and activities of pedagogical support; learning, both through school and in a more personal area of self-reflection.

Suddenly life changed for them, principally *daily routines and materiality* in the lines of space, time and use of technology, the space at home was felt like limited/limiting and compressed, but made them feel protected, principally from school (but also from the virus COVID-19); some of them defined home space as mixed or hybrid, making for them more difficult to keep on different activities, relationships and approaches using the same space.

Time, especially in the first month was suspended, slow, expanded and felt like lost.

Technology became pervading of time and space, it was needed and necessary in every moment and every kind of activity and functions, for schooling, keeping relationships and free time.

School was attended through distance teaching: also in this dimension time and spaced changed. Only few minutes to prepare and go to lesson, no means of transports to take in a big city like Milan, less hours of lesson, less time dedicated to study, more free time.

The arrival of distance teaching sounded to be important to re-establish a personal daily routine, even if not structured timetable was difficult to follow. These characteristics made these months (and also studying) more appreciated, especially for students with dyslexia it was helpful.

The intensive use of computer for school in this period was quite conformable for these students: they felt competent just because they needed to use and learn previously because of their SpLD, instead of teachers who seemed in difficulty with it; use of computer became necessarily inclusive, as everyone in their class had to use it, so participant felt not differentiated because of it like in class; more, also the use of mind maps allowed in class but visible to everybody became imperceptible to other and also, probably, used also by other schoolmates. These possibilities made learning more accessible and easier compared to their past experience and, more, participants didn't live in the period of first lockdown any bullying situation by school mates, as happened before in some cases.

Problem in using distance teaching regarded the difficulty of maintaining relationships, both with schoolmates and with teachers; students also felt the missing of rules for the lesson online, for instance teachers at High school didn't solicited to switch on cameras.

More, following school from home make students felt comfortable and protected, but also risked more distraction.

Students give some advices for distance schooling: to improve Wi-Fi connection at home on all the territory, and to establish rules by school and teachers to participate to lessons. They hope teachers prepare lesson in advance more properly, possibly with more interactive and less taught-class lessons, sharing their screen to show visually, and creating small group activities.

Looking forward being back at school they hope to have technologies for all students in classroom and to use it, to have few hours' lesson and continuing to have access to recorded lectures like in this period.

For the personal area and self-reflection it was found a large and deep, interesting, area of learning earnings and benefits: students think they improved self-organization and self- motivation, but also the ability of reflection on themselves; the ability of facing difficult and new situation, «not undervaluing problems (what happened in the entire world about COVID-19 disease)»; and «to live in the uncertain and live negative emotions». These reflections conducted them also to give a different value to events and part of their life, different from what happened previously: time is important, like that relationships, cooperation with others and also «being human»; in particular, they reflected and gave a new value to social rules, starting from those for control of COVID-19 – rule that explain the importance of respecting others, cooperating, responsibility and necessity.

The second important area of reflection regarded feelings and emotions, very difficult to express and re-read immediately: they felt relaxed (for being at home) but also confused, anxious and scared, even if difficult to name these emotions. Feeling alone and bored were other prevalent emotions of the period for most part of the day. Boredom sounded to constitute an opportunity to develop reflectivity, making them experiment different experiences, to have more relationships with other members of their family and to plan and self- organize time.

Metaphors used to describe this period can be classified in three areas, recalling what just outlined: the idea of something so pervading that created fear (swimming all day long in a swimming pool without possibility to come out of water, a huge fire, the dark side of the moon); the call to chain and to responsibility (cut the chain of fire, take distances); only one student talked about a transformation and opportunity (caterpillar closed in chrysalis changing in a butterfly ready to fly in a new shape).

Regarding relationships, family seemed to be an important protection factors: ritual moment, such as the evening movie, the lunch all together, cooking together, helped adolescents to keep in touch with reality and to share but also to be comforted and reassured, with a coming back in years especially for Middle school students and in relationship with the mother. This is the only main difference among Middle and High school students: for the firsts this renewed relationship with families («like in holiday») was an unexpected present, for High school students was

occasion to reestablish dialogue and sharing with parents but also for some conflicts.

Regarding relationship, the main part of them closed to relationships for the first month thinking of a temporary situation and in difficult to use technology or telephone to communicate with friends: it seemed to be a very cold and impersonal way of communicating; with schoolmates the most of relationships were lost because not improved during lessons. After a while, some relationships started again, sometimes with supports; this experience for many participants brought to consider and distinguish sincere relationships from simple connections; for some of them distance was occasion to become friends with some acquaintances and to develop new strategies to cope relationships in distance. Those with more difficulties (4/17) recognize that also before lockdown had less strategies in this area and suffered more, going toward a resigned retire.

Regarding the second wave (autumn, 2020 and beginning of winter) we underline in this paper only differences from the first period observed: main differences regarded distance schooling, approach to relationships and feeling and emotions.

In fact, in this period, lockdown was not so strict like in the first one because work activities were opened, transport were working, schools, educational and sport activities and shops. All the possibilities authorizing to come out of home were precluded to adolescents.

In this period distance schooling maintained same timetable that used in September 2020 so that daily routines weren't lost like previously, lessons were more structured and rules were given.

In general, students felt more aware of what was happening and how to cope with it. Because of regular timetable they felt quite busy and soon quite tired, and contemporarily started to feel again anxiety for unpredictability of the situation and of changing of colors of regions. About relationships, they afforded isolation feeling less alone and using more strategies developed in first lockdown, closing less to others.

Re-opening of Spring 2021 are going to be examined, but preliminary participant observation of this period (January-June 2021) say that a different part began: coming back to school was «welcomed» by a long series of written and oral tests, while since February 2021 fatigue was assaulting students. No respect of planned tests provided normally for SpLD, a frantic rhythm of one-two tests/a day accompanied students all days they were in presence at school, while teachers declared wanted to taking advantage of being in presence to verify more they can.

«Faith in teachers and adults in general is broken», said a 17-year-old girl; «Color changing every week looks to play at the game of the goose, and we come back continuously», said a 16-year-old student.

It appeared that, as well as in first lockdown students forgot of having a SpLD, in re-opening and distance schooling of school year 2020-21 difficult for students with SpLD disabilities increased, because of the rhythm of examinations and tests established in the period in presence,

often not respecting the planned organization or not allowing the use of diagrams or mind maps as provided by law.

Spring seemed to bring the pandemic fatigue for adolescents, required to adapt again to presence and coming out home, without sport or other social possibilities but required to come back to a performative system at school. Anxiety, tension, demotivation increased mostly of all year and both students and their parents looked to lose clarity of thought in this kind of situation. Because of it, apart for participant observation was not possible to collect data in systematic way, for an ethic reason and because was difficult for them to answer to requests in a reflective way in such period.

Systematic data about the period January-June 2021 are going to be collected in September 2021 at the beginning of the school year.

Conclusion

Preliminary results suggest that many students have used the first quarantine (March-May 2020) to develop their approach to learning e reflexivity with personal advantages; all they also felt less difficulties than previously, thanks to extensive and inclusive use of technology, less time required for school, and personal strategies. More, they observed teacher in extreme difficulty in teaching through technology, such as they had lived the first period after dyslexia diagnosis, feeling incapable to learn because of some concrete barriers.

Situation changed in DaD (distance schooling) during autumn 2020, until the last period (Feb-March 2020), where unpredictable timing of school test and work, a large amount of homeworks, greater unsupported difficulties and a break of mutual trust with teachers' sounds challenge and discourage adolescents' hope to come out of a general pandemic situation, to succeed and be motivated in learning.

The study, actually developing, open in deep how adolescents are living this unprecedented period, offering to pedagogic reflection strategies they developed or suggested for all the class from their own experience.

Moreover, this research has had a deep transformative impact on participants, who want to share their experience but also find in it a sustain to reflection and emotional elaboration and a motivation.

In the pandemic period in which each student has a special need because of a new challenging context of living and experiencing, because of distance, of sufferance in social, familiar or psychological context, can this pedagogical reflection — conducted from the point of view of students accustomed to use technology, to reflect and to make an effort to find different ways and new motivation to succeed in learning — be useful towards an inclusive re-projection of learning and living education contexts?

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Disability Studies Perspectives on Music Therapy and Autism Spectrum Disorders. Reviewing Approach and Outcomes

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ABSTRACT: *Music therapy has acquired over the years a gradual process of medicalization generated by the need to provide evidence-based results in the treatment and rehabilitation of Autism Spectrum Disorders. Otherwise, the goal of music as therapy should not be to propose music as a kind of remedy or cure, but to promote relationships between individuals, to acquire a collective awareness thanks to the communicative potential of music. Modern approaches can rely on Disability Studies as a ground to move in this direction, in a humanistic perspective, centering on culture, orienting on resources rather than defects and discussing the roles of power in the therapeutic relationship.*

KEYWORDS: *disability studies, music therapy, autism spectrum disorders*

Introduction

One of the first methods of music therapy (MT) for autistic children was introduced by the British composer Juliette Alvin (1897-1982) who developed new communication strategies using music improvisation. She founded the modern *British Society for Music Therapy*, based on educational models of teaching music from a humanistic perspective. Her success attracted the Argentinian musician and psychiatrist R. Omar Benenson who is considered the father of modern music therapy, by the controversial meaning of therapy, music and non-verbal communication. Benenson strictly analyzes the process of making music from the autistic way, enlarging perspectives on *Sound Identity* (ISO) from a Freudian point of view. In this period, the attention moved from the musical aspect of MT to a more analytical view based on the relationship between patient and its objects in the setting, represented by musical instruments, and therapist (Manarolo, 2006).

The medical perspective in MT as an evidence-based practice was improving research related to the Autism Spectrum Disorders until nowadays (Geretsegger et al., 2012) and trying to express the general want in reducing symptoms, to validate the efficacy on the pathology. In terms of normalizing autistic children to the common framework of social competences and relationships, this can be considered a fail for MT.

What we do with music therapy is very similar to the synchronicity of mother-newborn: we adapt our musical expression to incoming to the children, who's playing naturally, without any instruction nor influence. Nevertheless, every external influence is considered as tainted expressions of inner musical arts from every child; for this reason, main goals in MT are to give the chance to express the innate self-interpretation of the world, through sounds, movements, rhythm, and music. Generally, it is recommended to use simple musical percussion instruments, often loaned by ethno-anthropological framework where each sound is enriching the concert, to give new rhythms, colors and shapes that inspire the musicians. We understand why autistic people are so interested in music therapy: it's about giving the opportunity to explore, to touch and to feel a lot of sound materials, it represents a sensorial attraction (De Backer, 2009).

Despite all this positive feedback given by therapists, clients and families, there's no clinical evidence of positive results for MT, why? Maybe the question is about: what are we looking to? In the words of Straus (2011) «if we want to impose ourselves as health care providers, in the case of autism we have failed in advance, if our goals are enhanced self-expression, knowledge, and pleasure through mutual music-making, we are offering some of the greatest possible value».

We can use MT not only for Autism Spectrum Conditions (ASCs) users, I hope it can be useful for all those who want to enrich their communication and self-expression or self-liberation as a long-life learning approach. One of the main ways in using music therapy is the improvisational-creative technique, that means active playing, both expressive and self-determination related by accepting every diverse musical form. The music therapists know very well the importance of the interpretation of the error in improvisations, because it represents the way we would like music to be, that is free from any structured imposition.

Nowadays, the intent is often confused with the hope of reducing symptoms or undesirable behavior, especially with people with ASCs.

1. Music in Therapy and Music as Therapy

Fields of application in MT are very large and differentiated: from pregnant courses, to educational and rehabilitative centres for children of every age and teen-agers, from support, care and treatment of the psychosomatic area or psychiatric pathologies, including dementia, elderly disease, palliative cares, pain control, diverse neurological disease and/or ending life cares. In this sense it has been difficult to find a unique and validated grounded theory for Music Therapy.

Since Alvin and Benenzon put the pillars of MT in the occidental world countries, outcomes and approaches has been developed following some different routes, we can distinguish two macro areas in which to

classify the reference models: those in which music is used *in* therapy, generally oriented to the medical model, with the psychiatric support and the diagnostic purpose to cause regressive and cathartic effects, and those in which music is used *as* therapy.

Behavioral MT (Bunt, 2003) is often associated with the possibility of successful approaches for autistic children, the goals are aimed at reducing unexpected behavior and/or modifying non-musical behavior with a hierarchical relationship therapist-client. Some other approaches have been supported by pedagogical theories based on musical education for children, for example the Orff-Schulwerk method, largely applied to increase learning functions as a reinforcement for non-musical behaviour. In *Creative Music Therapy* by Paul Nordoff and Clive Robbins (2005) the therapists are trying to understand non-verbal communication from clients and using improvisation to match and reflect, prompt musical production, develop musical and expressive skills; Nordoff and Robbins used music as a universal language, proposing to open new worlds for disabled people, break their isolation, and provide tools for sharing experience.

Another example is the *Analytical model* from Mary Priestley (Eschen, 2002). In her interpretation, music is an intervention centered on psychological aims: music is used in order to dialogue with therapists aimed to change; there's a strong dimension of roles between therapist and patient. Helen Bonny (1989) is one of the pioneers of *Guided Imagery and Music* (GIM): it's a receptive model of MT regarding exploration of inner emotions, intent, personality, spiritual areas, by using different theoretical approaches. In this method, music is used to induce affective responses by a mediated-intervention focused on the evocative potential of imagination. In most cases classical music extracts are proposed and the therapeutic intervention is conducted verbally by the therapist.

The need to find a well-founded theory on which to base one's own research and clinical study methods has already been posed by Benenson (2005), who warned of the danger of overusing terms from the pedagogical or psychological field, or even from the medical field, emphasizing the need to create the basis for a science and a discipline in its own right. In recent years the profession has developed around the world and not all countries have been able to accommodate this need, there are still very different and very conflicting positions on the clinical use of MT; this affects also the training system of professionals. To give some examples, two different currents of thought have been generated, in which music is used to support, assist and implement the treatments already in place, or a discipline with its own body of knowledge that makes it effectively independent from other types of treatment.

Even the international panorama of associations of music therapy pose the same question: on the one hand, the *American Music Therapy Association* (2005) proposes the following definition:

Music Therapy is the clinical and evidence-based use of music interventions to accomplish individualized goals within a therapeutic

relationship by a credentialed professional who has completed an approved music therapy program. MT interventions can address a variety of healthcare and educational goals: promote wellness, manage stress, alleviate pain, express feelings, enhance memory, improve communication, promote physical rehabilitation, and more.

This definition is evidently supported by the medical model, remarked by the need to rely on evidence-based practice; furthermore, the relational goals are only reduced to a therapeutic relationship. This definition has been criticized by Disability Studies (Straus, 2013) because it places MT in the health care services. On the other hand, *World Federation of Music Therapy* (2011) is providing a definition that try to synthesize the varieties of uses of the discipline, remarking and underlining its social and community importance in the world according to the specific countries, from a legal and normative point of view:

MT is the professional use of music and its elements as an intervention in medical, educational, and everyday environments with individuals, groups, families, or communities who seek to optimize their quality of life and improve their physical, social, communicative, emotional, intellectual, and spiritual health and wellbeing. Research, practice, education, and clinical training in music therapy are based on professional standards according to cultural, social, and political contexts. (World Federation of Music Therapy (WFMT), 2011)

It seems important to us to recall also the 1996 definition by the same authors (WFMT) from which a profound reform of thinking is evident¹:

Music Therapy is the use of music and/or its musical elements (sound, rhythm, melody and harmony) by a qualified music therapist, with a client or group, in a process designed to facilitate and promote communication, relationships, learning, mobilisation, expression, organisation and other relevant therapeutic objectives in order to meet physical, emotional, mental, social and cognitive needs. Music Therapy aims to develop potentials and/or restore functions of the individual so that he or she can achieve better intra and/or interpersonal integration and, consequently, a better quality of life, through prevention, rehabilitation or treatment.

If we look at these two definitions, we can see a shift in focus from the individual need to the group, the family and the community. The focus is shifted from the individual to its context also in relation to the goals, which were previously cognitive, physical and mental while today are environmental. The context is no longer only medical, clinical and/or educational: the focus has shifted to the context of everyday life and, finally, the use is no longer by a «qualified professional» but is «a professional use of music».

¹ The WFMT Council decided to update the definition of Music Therapy to reflect contemporary goals in a worldwide perspective.

Disability Studies Perspectives on Music Therapy

Joseph Straus (2011) one of the interpreters of disability studies in MT proposed the following definition of MT: «is a normalizing enterprise, bound up with the medicalization and attempted remediation of disability» (p. 158). The idea of MT as an «normalizing enterprise» is accorded to the severe criticism of the medical model of disability, that focuses on individual efforts while leaving out a collective responsibility to the enabling and disabling processes. Cameron (2014) point out that music therapy as a profession arises from the medical business of disability, generated by the demand of medicalisation followed by the industrialization process:

From a disability studies perspective, the keenness of music therapists for acceptance, recognition and respect from the medical profession and its spin offs is intensely problematic. Taking on the trappings of pseudo-medical academic practice in terms of, for example, the development of positivist research, involves the entrenchment and stabilisation of already formidable disabling barriers. It imposes a medical model view, and further objectifies disabled people at the expense of buttressing the profession's status. (5)

Disability studies refer to the social model according to which impairments effects are perceived by others and, consequently, are experienced by disabled people shaped by the interaction of biological and social factors (Cameron, 2014).

The need to find an alternative theoretical and research model to the medical one is the most important challenge for MT in the last 20 years. Pavlicevic (2004) already identified a new direction during her experiences at *Themba lethu NGO* for HIV/AIDS orphans in South Africa; for the author music therapy needed re-visiting conventional norms, theory and intentions.

MT practice need constant re-thinking and re-assessing conventional values, also in defining the roles between client and therapist, and spaces «inside and outside» of the therapeutic setting. In the word of the author (Pavlicevic, 2004):

Traditional music therapy practice has [...] managed to ignore the socio-cultural territories surrounding the music therapy sessions and [...] kept these outside music therapy practice. Inside the existing and received canon of music therapy theory and techniques, a culturally neutral stance has preserved a comfortable seal between inside and outside. Within neutral practice, clients are invited to enter the therapeutic space (which is private and confidential) within which the client and therapist enter into a therapeutic relationship. Surrounding this entry are a complex set of social conventions [...] Once these conventions are more or less in place, there is «the music therapy session» in which the roles of client and therapist are activated. The «session» is followed by another set of conventions, this time to do with reporting, evaluating,

assessing, reflecting, and theorizing about the session. In this model, music therapy skills are equally neutral [...] (35)

It is interesting to underline that reflections about re-thinking MT practices are coming up from a medical operating system, in a post-colonial context where even local traditional healings are ostracized. A socio-cultural orientation of MT has been discussed from a variety of perspectives in a variety of contexts, rarely are explicit references made to disability or autistic conditions, generally preferring to talk about community, context, musical health (Aigen, 2002; Ansdell, 2001; Bunt, Pavlicevic, 2002; Lee, 1992; Pavlicevic, 1997; Ruud, 1998; Stige and Aarø, 2012). These orientations, marked a new era for music therapy, more focused on music-making processes by considering culture as a resource for action and an integral element in human action, more than a stimulus influencing human behavior. Randi Rolvsjord (2004) discusses the concept of empowerment related to a more resource-oriented approach of MT. Empowerment as a politically loaded concept referring to power relationships, involves a distribution of power that does not imply the oppression or powerlessness of other individuals and groups arguing with feminist theory in redefining traditional notion of power, class, race, gender, sexual orientation, socioeconomic status, including the relational triad involving client, therapist and music. Therapeutic effort within a philosophy of empowerment implies focus on the client's resources and potential rather than on their weakness or pathology (Rolvsjord, 2004) thus, it involves recognition and acknowledgement of resources as well as development and learning of skills and competencies which will promote self-determination and participation.

Stige (2015) proposes the use of the term *Culture-Centered Music Therapy* to describe a broad tradition within the discipline that highlights participation, action and transactional development through music, as Stige (2002) describe:

Culture is what happens when people spend time together; they act and they interact, they produce artifacts and they use artifacts, and they do this as they make rules and break rules, if only to make new rules. Culture then is shaping people and shaped by people, in conscious and nonconscious ways (38)

Role of cultural relativism is central in some modern views of MT with Autism Spectrum Disorders, the vision expressed by Joseph Straus (Davis, 2013) of «Autism as culture» can be associated with the role of music therapy in the transformation of social relations, with the requirement for music therapy educators and practitioners to develop a critical consciousness within emerging social contexts.

Michael Bakan (2014) is professor of ethnomusicology at the Florida State University, in 2005 recruited an interdisciplinary team of research collaborators working with the *Social Communication, Emotional Regulation, and Transactional Support* (SCERTS) model for autism

assessment (Prizant et al., 2006) for a both ethnographic and statistical analysis of a child-directed musical/social leads activity: *Exploratory World Music Playground* (E-WoMP), an improvisatory environment specially designed for children with ASCs with their parents or other caregivers as active music players in the group. Positive results of this approach pull toward the author to launch a new ensemble, but the intent was moving away from «converting this musical, playful, spontaneous enterprise» into something that, in Bakan's words (Bakan, Aigen, 2020) «would yield outcomes suited to publications in scientific journals, to securing grants from scientific research-funding organisations». The *A.r.t.i.s.m. Music Project*, the acronym of *Autism: Responding Together In Sound and Movement*, is an intergenerational, intercultural, intermusical and neurodiverse creative music performance collective involving four to five children with ASCs, their co-participating parents, and professional musicians from diverse musical backgrounds performing improvisation-driven music together. Most of the instruments are modeled on drums and percussion instruments originating in Africa, America, Native instruments and other regions of the world, with also guitar, bass, steelpan, flute, clarinet, zheng zither and Aboriginal Australian didgeridoo. Participants reflect both this multicultural diversity with performers and improvisers from China, Peru, Trinidad, Bolivia, North America, students involved in the programme, University Professors and jazz performers.

Ethnomusicology offers powerful tools to understand autism as a way of being in the world, therapeutic goals would not measure nor provide interventions for autistic kids, but rather cultivate places and facilitate outlets for their own agency, on their own terms. Therapy, in this manifestation, would be achieved through the embrace of autistic ways of being. This approach offers to the discipline of music therapy a valid alternative to the grand narrative provided by the medical model; rather, it refers to the social model of disability considering personal resources arising from the dynamic interaction of self and society. Music, as temporal action, can occur concurrently with other activities and behaviors; in Even Ruud (1998) definition «to increase a person's possibilities for action, would mean not only to empower her but also to alleviate some of the material or psychological forces that keep her in a disabled role» (51-52).

Conclusion

The definition of «health musicking» seems to be the latest milestone in the efforts of scholars and practitioners to move closer to the social model. The following outcomes provided by Stige and Aarø (2012) *Participatory, Resource-oriented, Ecological, Performative, Activist, Reflective, and Ethics-driven* (PREPARE) reflects the intention of seeking an alternative to the medical model and provide a new line of research

that is certainly more sustainable, especially for people with an autistic condition. Disability studies are offering a code for practice and research, different from that which were used by able-bodied scholars, detaching from using terms and methods properly from a deficit model perspective and looking forward to an approach that is radically democratic. Implications include the use of ethnography and participatory action research, emphasizes the social and political dimensions of music (Metell, 2014) and compel a neurotypical-dominated audience to see and appreciate the essential humanity and sociality of autistic people.

In MT research, as well as in MT practice, the question that moves our action should be: who benefits from the practice? Who is the subject of the research? Gradually the focus has shifted from a therapy *in* context to a therapy *for* the context, or better, a therapy *with* the context. In this view, maybe we can make our acts relevant to improve material circumstances and quality of life.

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Universal Design for Learning in Norway: A Human Rights Approach to Promoting Inclusive Education

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ABSTRACT: *According to the 2008 Norwegian Equality and Anti-Discrimination Act (EAA), service providers in Norway have an obligation to promote universal design of information and communication technology (ICT) solutions (BLID, 2008). Since the adoption of the EAA, the Norwegian government and advocates have promoted the adoption of universal design for learning. This article briefly outlines the law for universal design of ICT in Norway, presents the state-of-the-art in universal design from a human rights lens, and discusses the application of universal design principles to learning in Norway.*

KEYWORDS: *Universal Design for Learning, Norway, Inclusion, Disability Studies.*

Introduction

Since the 1990s, research has conceptualized universal design as the design of products, environments, programs and services to be usable by all people. Newer research has however promoted a new framework for the realization of universal design within the information society (Giannoumis, 2016; Giannoumis, Stein, 2019). The new set of principles defined by Giannoumis and Stein contributes in applying universal design to ICT and in framing it as part of the inviolable human rights, in accordance with the human rights model of disability conceptualized by Theresia Degener and formalized in the Convention on the Rights of Persons with Disabilities (CRPD). In fact, if the sociological explanation of disability codified in the social model of disability laid the foundation for a social theory of disability, the CRPD and the human rights model seek to provide moral principles and values as a foundation of disability policy (Degener, 2016b). The purpose of the treaty is 'to promote, protect and ensure the full and equal enjoyment of all human rights and fundamental freedoms by all disabled people, and to promote respect for their inherent dignity'.

Following the wave of social reforms and reframing of disability in 2008 the Norwegian government adopted the Equality and Anti-Discrimination Act (EAA), which established the obligation to promote

universal design of publicly available goods and services including ICT with a definition that echoes the framing on CRPD. The design must be accessible to and usable by as many people as possible without the need for adaptation or specialized design.

This paper discusses how higher education institutions must apply the four principles of Universal Design in learning and teaching theorized by Giannoumis and Stein in order to more fully achieve universal design and how this perspective is paramount in order to develop a truly inclusive society. The universal design for learning perspective adopted here builds extensively on the theoretical background of the Disability Studies, particularly on the new human rights model of disability defined by Theresia Degener (2017). The case study that we are presenting is from the Oslo Metropolitan University (Norway), leader in the adoption of innovative methods in teaching. By anchoring universal design in relation to social equality and non-discrimination, by taking into account the diversity of the human experience and the barriers that emerge from the interaction between systems of social disadvantage, by considering both access and use of ICT and by directly involving people with diverse backgrounds and experiences higher education institutions in Norway can help promote a universally designed society that is necessary for some and good for everyone.

1. Laws in Norway

In 2008, the Norwegian government adopted the Equality and Anti-Discrimination Act (EAA), which established a general obligation to promote the universal design of publicly available goods and services including Internet and Communication Technologies (ICT). According to the EAA, universal design refers to designing ICT so that it can be used by as many people as possible, without the need for adaptation or specialized design. This comes down to three issues. First, technology has to be usable. Second, usability has to extend to everyone on an equal basis, and third, use cannot require any kind additional software or systems to make it usable. In 2013, the Ministry of Government Administration, Reform and Church Affairs issued new regulations that obligate service providers to conform to specific standards for universal design. For example, according to the regulations web-based ICT solutions «shall at least be designed in accordance with standard Web Content Accessibility Guidelines 2.0 (WCAG 2.0) / NS / ISO / IEC 40500, 2012, level A and AA except for the success criteria 1.2.3, 1.2.4 and 1.2.5 or equivalent to this standard» (FAKD, 2013). The WCAG 2.0 is an industry standard for web accessibility that focuses on whether and to what extent websites are perceivable, operable, understandable and robust for disabled people. In 2012, the Equality and Antidiscrimination Ombud heard two complaints initiated by Visually Impaired Academics (SAF). In the complaints, SAF argued that Fronter, a web-based learning

management system used at the time by the University of Oslo (UiO) and Oslo and Akershus University College of Applied Sciences (HiOA), was inaccessible for disabled people (LDO, 2012, 2014). SAF later withdrew the complaints as both educational institutions agreed to make progress towards ensuring the accessibility of Fronter. Since 2012, both UiO and HiOA (now Oslo Metropolitan University) have adopted Canvas, which research shows is a more accessible learning management system than Fronter (Ahmad et al., 2018).

2. Universal Design Principles

2.1 Traditional Conceptualizations of Universal Design

Since the 1990s, research has conceptualized universal design as the design of products, environments, programs and services to be usable by all people. In the beginning, the focus was on issues related to usability, as stated by Mace in 1985: «The design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design» (Mace, 1985). The seven principles of universal design established by Mace's working group at the North Carolina State University aimed to guide its applications in design, disciplines and educational purposes.

The first principle is the equitable use, and states that the design must be useful and marketable to people with diverse abilities. The second principle affirms that the design should accommodate a wide range of individual preferences and abilities, while the third adds that it also must be simple and intuitive to use. The fourth principle asserts the importance of perceptible information: the design must communicate necessary information effectively to the user, no matter ambient conditions or the user's sensory abilities. To align itself to the fifth principle, the design should have a valid tolerance for error and minimize hazards and negative consequences of unintended actions. The sixth principle establishes the need of low physical effort, allowing the users to handle it comfortably and efficiently and with minimum fatigue. The seventh and last principle states the necessity for appropriate space and size for approach, reach, manipulation and use of the design, regardless of users' body size, posture, or mobility (The Center for Universal Design, 1997).

2.2 Universal Design as a Means for Social Inclusion

In the last ten years, the attention on social inclusion has been increasing within the community of universal design practitioners, which led to the establishment of a new definition of universal design. Steinfeld and Maisel, from the WBDG Accessible Committee, defined universal design as «a process that enables and empowers a diverse population by improving human performance, health and wellness, and social participation» (Steinfeld, Maisel, 2012). In order to achieve said definition, Steinfeld and Maisel also indicated eight criteria for universal designing:

- Body fit. Accommodating a wide a range of body sizes and abilities
- Comfort. Keeping demands within desirable limits of body function
- Awareness. Ensuring that critical information for use is easily perceived
- Understanding. Making methods of operation and use intuitive, clear, and unambiguous
- Wellness. Contributing to health promotion, avoidance of disease, and prevention of injury
- Social integration. Treating all groups with dignity and respect
- Personalization. Incorporating opportunities for choice and the expression of individual preferences
- Cultural appropriateness. Respecting and reinforcing cultural values and the social, economic and environmental context of any design project.

2.3 Universal Design from a Human Rights Lens

However, recent research has examined the theoretical underpinnings of universal design and has argued for promoting an even newer framework for realizing universal design in the information society (Giannoumis, 2016; Giannoumis, Stein, 2019). This research has reframed the traditional and sometimes conflicting principles of universal design to account for the necessity that ICT has for realizing human rights, including the right to education. While recognizing that universal design arises from the intersection of disability rights, human rights and access to technology, the new framework argues that universal design can promote equality through four principles that crucially shift the focus from universal design as an outcome to universal design as a process (Paupini, Giannoumis, 2019). This new set of principles of universal design for the information society helps to set a new direction for universal design research and practice by evolving the ways in which universal design is applied to ICT. These principles recognize universal design as based in human rights and pose salient points of departure for the application of universal design to the information society.

- Social Equality: a more structured approach for understanding universal design should use equality and non-discrimination as a reference point for implementing universal design in policy and practice. Such an approach would position universal design, similar to accessibility, as a mechanism for promoting equality.
- Human Diversity: universal design can ensure a truly universal experience by considering the barriers that people experience across all forms of disadvantage, as well as the complex, overlapping, and multidimensional barriers that exist at the intersection of multiple forms of disadvantage.
- Usability and Accessibility: taking into account access as an interdependent component of use extends universal design

considerations from how the design is used, to include considerations on whether and to what extent it can be accessed.

- Participatory Processes: a set of principles for universal design should take into account user participation as an integral element in the design and development of ICT. (Giannoumis, Stein, 2019)

This last set of principles is the one the authors have decided to adopt for the purpose of their research. Firstly, because by anchoring universal design in relation to social equality and non-discrimination, applying universal design in practice helps animate universal design practices based on overarching human rights considerations. Secondly, because by taking into account the diversity of the human experience and the barriers that emerge from the interaction between systems of social disadvantage, service providers can more fully ensure the usability of ICT for everyone, including disabled people. Thirdly, because by considering both access and use of ICT, service providers can ensure a more holistic approach to realizing universal design in practice by not only considering the interactions between people and ICT interfaces, but additionally considering different aspects of the digital divide such as affordability and the digital skills gap between different groups of people. Lastly, by considering participatory processes, service providers can help remediate ICT barriers at an early stage by directly involving people with diverse backgrounds and experiences in the design and development of ICT.

3. Disabilities studies and human rights

3.1. An historical summary

Disabled people are and have been historically considered a social burden, especially since ancient societies typically valued persons based on their contribution to society (Persson et al., 2015). It was only after the industrial revolution, in the 18th and 19th centuries, that the governments begin to recognize disability as the consequence of workplace injuries or military service, therefore enacting the first benefits policies (Logue, Blanck, 2010). With the raise of right-based principles, equality and equal opportunity amongst others, the way disabled people were perceived within the society started to change. Disability rights advocates and scholars started to question the prevailing social image of disability, that considered it either an object of charity or a medical issue (Kanter, 2014). In the mid-20th century, scholars started to conceptualize disability according to different models including medical, charity, social and relational models of disability.

In the medical model scholars conceptualize disability as emerging from an individual's physical, sensory or cognitive impairment (Lid, 2013). The whole lived experience of disabled people is considered principally in relation to healthcare providers and diagnosis or treatment.

Disability itself is treated as an illness, though medication or rehabilitation.

The charity model of disability, on the other hand, takes a paternalistic approach of caring for disabled people because of their condition, resulting in the exclusion of disabled people from most crucial aspects of social life. The charity and medical models share approaches that conceptualize disability as an undesirable condition (Harpur, 2013).

The disability studies then provided the theoretical background for a necessary shift from the medical (and the charity) to the social model of disability (Degener, 2016b). The social model of disability, essentially, argues that disabled people are such not because of their impairments but due to the disabling barriers society establishes (Michael Oliver, 1996). It soon became the means to develop a collective consciousness on disability, helping to strengthen a movement of disabled people that with time managed to change society (Mike Oliver, 2013).

3.2. The human rights model of disability

Although the social model of disability stemmed from a radical critique of the medical model of disability, it has since then been harshly criticized within the disability studies (Degener, 2016a). However, scholars suggest that the social model of disability has inspired the drafting of the Convention on the Rights of Persons with Disabilities (CRPD) and supported a rights-based conceptualization of disability (Degener, 2016a; Lid, 2013), which led to the conceptualization of a human rights model of disability.

If the sociological explanation of disability codified in the social model laid the foundation for a social theory of disability, the CRPD and the human rights model seek to provide moral principles and values as a foundation of disability policy (Degener, 2016b). The purpose of the treaty is 'to promote, protect and ensure the full and equal enjoyment of all human rights and fundamental freedoms by all disabled people, and to promote respect for their inherent dignity'. Crucially, whereas the social model of disability illustrates the reasons behind the fact that the vast majority of disabled people in the world are living in relative poverty, the human rights model suggests a path for change. It moves the focus from describing the issue to solving it. As Degener herself explains, the human rights model is not, nor does it want to be, the alternative to the social model of disability. It is, on the contrary, an improvement and a valid tool to implement the CRDP (Degener, 2016b).

4. Universal Design for Learning in Norway

In order to more fully achieve universal design and adhere to the 2008 Norwegian Equality and Anti-Discrimination Act (EAA), higher education institutions in Norway must apply the four principles of universal design in learning and teaching.

First, the principle of social equality and non-discrimination means that higher education institutions must have as their guiding strategy the moral duty to promote social equality and eliminate discrimination in all of its forms. This includes both direct forms of discrimination as well as indirect forms of discrimination. INDIREct discrimination occurs when general rules, which apply to everyone, result in a disadvantage that affects some groups more than others (Lawson, 2008). For higher education institutions, this means evaluating and identifying ways to remove barriers to participating in education or employment. These barriers should consider an individual's race, color, sex, language, religion, political or other opinion, national, ethnic, indigenous or social origin, property, birth, age, disability, or other status.

Second, the principle of diversity and social disadvantage means that higher education institutions must consider the ways in which the spectrum of the human experience are represented in their faculty, staff and students. In addition, higher education institutions must recognize the social disadvantages that people experience in education and teaching and work to redistribute resources to ensure that everyone has a reasonable chance of achieving success both students and faculty members.

Third, the principle of usability and accessibility means that higher education institutions must consider whether and to what extent students and faculty members can effectively, efficiently, and satisfyingly use educational ICT and to what extent students and faculty members have access to educational ICT. Where students or faculty members experience barriers to using ICT or accessing digital skills and the financial resources to purchase ICT, higher education institutions must ensure that those barriers are identified and removed at an early stage.

Fourth and finally, the principle of participatory processes means that higher education institutions must substantively involve all relevant stakeholders in the design and development of educational resources, programs, courses and other outputs. Substantive involvement means more than consulting stakeholders at the end of the design and development process, and instead continuously involves stakeholders from an early stage from ideation to implementation. By taking into consideration social equality and non-discrimination, human diversity and social disadvantage, accessibility and usability, and participatory processes higher education institutions in Norway can help promote a universally designed society that is necessary for some and good for everyone.

4.1. The Case Study at the Oslo Metropolitan University Background

In this section is presented a unique case where the use of technology in teaching and learning has been adopted as a mechanism for promoting universal design for learning in practice (Hagerup et al., 2017). The case is based on a web design course offered during the Autumn semester of

2015 at the Department of Computer Science at the (at the time) Oslo and Akershus University College of Applied Sciences, today called Oslo Metropolitan University. The course was a required introduction course for first-year, first semester students in computer science. The course included approximately 280 students from three Bachelor programs, including information technology, applied technology, and software engineering. The main focus of the case was to explore the impact the design of a room itself has on how a lecture, and the very process of knowledge acquisition, is conducted in technology and engineering fields for a diverse group of students (Hagerup et al., 2017). The case included the Flipped Classroom as a pedagogical approach. The flipped classroom approach acted as source of inspiration for both lecturers – i.e., as a way to broaden the terms of what a lecture is and can be – and for students as a way to provide multiple options for engagement, representation, action and expression (Hagerup et al., 2017).

Methods

During the semester, the students were invited to choose the format they preferred among four options for eight of the fourteen in-class sessions, while the remaining six were planned as lectures. The four choices for the material's presentation were: as a game, with a simulation, with a discussion or as a lecture. The students, divided into two groups for logistic reasons, voted their preferred choice one week in advance of the session through the game-based platform Kahoot. As part of the study, data was gathered on the use of technology among the students, including in-depth qualitative interviews and quantitative surveys documenting their impressions with the experience.

Results

The results showed that the two groups of students made very similar choices on the way they wanted the class materials to be presented. For seven of the eight sessions with optional formatting, the majority of the students from both groups opted for the lecture format. When questioned about this choice during the in-depth interviews, the students pointed at the lack of flexibility the room presented, which prevented the adoption of different teaching methods and the possibility itself of imagining a diverse format. The auditorium in its very essence impeded communication among the students, that were forced to face the same direction, and limited flexibility in movement and technology adoption. The results of the case study were conclusive in underlining how a blended learning course were further challenged by the design of the auditorium and in constant argument with the expectations connected to what was going to happen in class.

Conclusion and future work

It is at this point clear that the pedagogic methods and the learning environment in which they are applied must develop in parallel and match each other to be effective. Applying the universal design for learning principles to higher education institutions is not only a legal requirement in Norway, but a moral necessity to respect human rights. By taking into consideration social equality and non-discrimination, human diversity and social disadvantage, accessibility and usability, and participatory processes higher education institutions in Norway can help promote a universally designed society that is necessary for some and good for everyone.

The COVID-19 pandemic and the consequent requirements for social distancing has brought to OsloMet the opportunity to experiment teaching in the absence of a physical, non-flexible environment. Digital learning environments can also be challenging for implementing more active learning methods and the necessity to face the unexpected forced the institution to face a learning curve. Future work will surely include a report and reflection on the three semesters spent in digital teaching and the evolution in methods applied in such a (hopefully) unique condition. With the hope that the knowledge, the competences and the skills learned due to the necessity of the circumstances will fuel an inclusive revolution in the future.

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Integration/Inclusion. What Conceptual Model in The Documentation Produced by the Schools?

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CDUVTCEV: *The Cultural Model provides critical tools for reflection in relation to the construction of meanings within our culture and, in particular, within the culture that develops within schools. What are the meanings expressed by schools within the documentation they produce? Through what language do schools present themselves to the outside world and to society? What are the ideas that are conveyed through the use of this specific language? It is precisely from the reading and analysis of the Three-Year Plans of the Educational Offer (PTOF) of the Institutes including Tuscany that the reflections, not at all, final of this work will come, showing what are the terms that are used within these documents, what ideas are conveyed and on what values are based.*

MG Y QTFU: *Cultural Model, integration/inclusion, deconstruction of disability, signification, school documentation.*

Introduction

The Cultural Model is characterized by careful reflection on the creation of culture and how it is discursively determined and understood. The use of language therefore becomes not only an indicator of the underlying culture but represents an attitude that, as such, can undergo modifications.

According to the thought of T. Shakespeare, what he calls a «cultural turning point» (Shakespeare, 2014, 77) appears to be of considerable importance to identify studies on language and discourses that have focused on the deconstruction of the category of disability.

However, before being able to deconstruct any category, it is essential to understand how categories and social representations are constructed. S. Moscovici (1989) gives us what still today turns out to be one of the most significant works from which it emerges that social representation is the expression of knowledge shared within a society or group and that these are built through two mechanisms: conventionalization and prescription. On the one hand, these two mechanisms provide models, conventional schemes for reading the world and the phenomena that occur in it, and on the other hand, they are continually reaffirmed and reinforced through linguistic habits that end up making the modelling

prescriptive and the schematization conventional. To complete the action of representation, for the author, two processes are necessary that work synergistically: anchoring, which allows bringing back a fact never experienced within categories, which are familiar, and objectification, which tends to make abstract something that is concrete.

According to S. Hall (2006) it is the language that produces in our mind the meaning of the concepts and therefore their representation, all within the communicative process which, as such, needs to have a sender and a receiver, making so fundamental is the discursive coding that the issuer adopts in the expression of its own signification, of its own representation.

We have therefore come to determine two elements that underlie the cultural process, language and its discursive use. It is towards the latter that M. Foucault focuses his attention, on the discursive relations that characterize discourse as a practice (Vadalà, 2011, 134) and on «how truth effects are produced within discourses that are neither true nor false in themselves» (Foucault, 1977, 12). According to the French philosopher the object, the utterance has no meaning until someone represents it within a speech produced through the use of language and within a relation of knowledge (Foucault, 1972; 1998, 1999, 2004, 2005).

Thinking of disability as a construct of cultural significance, we can agree with what is highlighted by G. Vadalà when he states that «representations are not given in nature, they are not written in the genes and not even provided by 'divine gifts'. They are built, learned, produced and consumed and become people and cultural practices that will establish the boundaries of a symbolic context through which to explain the world» (Vadalà, 2011, 136).

Different cultures therefore generate constructs of different meanings; this is what C. Gardou (2018) affirms who, proceeding for discordant couples, proposes eight different cultural models that treat disability in as many ways.

Within the framework we cannot fail to recall, the work of R. Medeghini (2013) dedicated to the language used within the classifications of disability «where naming processes represent the most critical area» (p. 57). In this regard I. Hacking (2008) talks about classificatory thinking in reference to the epistemological debate between foundationist and anti-foundationist currents. The author believes that there is a dynamic interaction between the classifications developed in the social sciences and the individuals who are classified as, by qualifying a type of person or behaviour, it can be segmented until it is modified.

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and the individuals who are classified as, by qualifying a type of person or behaviour, it can be segmented until it is modified. This phenomenon is defined by the author as an *avalanche effect* or a *retroactive effect* of human specifications. According to J. Gimeno Sacristán (2006), the first form of distinguishing differences is to name them, and the first form of fighting conformist policies is to change the name of things.

To close the reference to the practice of classification and naming, we must also refer to P. Bourdieu (1983), who believes that classification is the result of a struggle within the social dialectic of naming and whose winner is the position with the greatest power relationship.

The classification system necessarily generates a relationship of nominal belonging to a group which, in relation to some characteristics, does not belong to another group, a mechanism that determines the dynamics of recognition within the single classes. Therefore, between different classes we proceed with a search mechanism for the presence/absence of the characteristics of our class to include or exclude individual subjects from it, thus, within each class, we are witnessing recognition, belonging and exclusion for those subjects who are not part of it, precisely in relation to the characteristics that identify that given category, thus generating a process of recognition of non-belonging.

Before analysing the language used in school, it is considered useful to refer to the reflections of the philosopher F. Monceri. The author believes that «linguistic nomination is not a neutral, non-evaluative act, but rather an act that incorporates an immediate ethical value, because the nomination is the result of a cognitive-value judgment through which whoever is mentioning establishes what it is worthy of being named and with what meaning» (Monceri, 2017, 9).

1. A survey on the PTOFs (Three-year Plan of the Training Offer) of the comprehensive Institutes of Tuscany according to the principles of the Cultural Model

The survey that is presented is part of a broader research conducted through a *Mixed Methods* approach (Amaturo, Punziano, 2016; Piccioli, 2019) which involved the comprehensive Institutes of Tuscany. In this context, we will limit ourselves to describing the analysis of the documentation produced by the 288 comprehensive Institutes present in the Tuscan territory found through the School unencrypted portal with particular reference to the PTOF of the school year 2017/2018.

The path moves in the direction of what J. Gimeno Sacristán (2006) argues when he states that «the first task to operate in the direction of the recognition of diversity in schools is to change the language to transform the perceptual schemes and the thinking of teachers [...] because language is the means to modify thought» (pp. 19-20).

To carry out the analysis of the documentation produced by the schools, a first mapping was carried out in relation to the

presence/absence of some expressions commonly found in the school documentation (Tab. 1.).

VCD030 "List of expressions searched for in the PTOFs of the 288 Comprehensive Institutes of Tuscany

<i>List of expressions subject of the research</i>
Certified pupils
Pupils with disabilities
Pupils with different ness
Disabled pupils
Differently able pupils
Handicapped pupils
Special Educational Needs / SEN
UN Convention
Disadvantage
Disorders
Specific Learning Disabilities / SLD
Cooperative Learning Groups
Homogeneous level groups
Non-homogeneous groups
International Classification of Functioning, Disability and Health/ICF
Inclusion
Individualization
Insertion / Academic insertion
Integration
Not Italian speakers
Peer tutoring
Personalization
Foreigners
Disadvantage

From this first analysis some data of particular interest emerge and no reference is made to the massive use of the term *inclusion* which appears 1184 times nor to the use of the expressions *Special Educational Needs* or *SPN* used 960 times, as to the total absence of references to the UN Convention/2006 as well as that regarding the use of *disabled pupils*.

The missing reference to the UN/2006 Convention is also accompanied by a limited reference to the ICF, nominated only 32 times by 32 different institutes. The non-use of the expression *disabled pupils* perhaps highlights a maturation of the language of educational institutions that prefer the use of other expressions: *differently able pupils* are used 256 times and *pupils with disabilities* used 512 times. This data shows how, in the drafting of the PTOFs, the institutes preferred to abandon precisely that use of stigmatizing language that leads to replacing functional diversity with the pupil, with the person.

As can be easily understood, all comprehensive Institutes use the expressions *inclusion*, *SLD* and *Special Educational Needs* or *SEN*. F. Monceri (2017) recalls that «when a term becomes widespread and shared enough it seems impossible to do without it, if not to the detriment of understanding between speakers» (p. 10).

One of the most surprising data is that relating to the use of the term *insertion* which appears 320 times in the documents and, even contextualizing the term through the reading of the texts, the data continues to be symptomatic. The term *insertion* is used by 33.33% of educational institutions compared to 22.22% in which the term *integration* is present, terms that always appear together with the term *inclusion*, which has now become commonly used. We must also emphasize that the term *insertion* is often referred to non-Italian-speaking pupils who have just arrived at the school, or to pupils with complex disabilities, as referred in Law 104/1992, pupils with disabilities in a serious situation. Furthermore, the term *integration* is always referred to pupils with disabilities and never to other categories of pupils, often alternated with the term *inclusion*, demonstrating the synonymous use of the two terms by schools. *Inclusion* therefore seems to represent a broader horizon, aimed at all pupils, *integration* appears as a possible scenario only for pupils with disabilities and *integration* seems to address *foreign* or *non-Italian-speaking* pupils who have just arrived and are unable to dominate the Italian language, or to pupils with complex disabilities.

It was possible to note that the expression *pupils with disabilities* was used by 55.56% of the institutions and never appears together with that of *differently able pupils*, used by 44.44% of the schools, as if to demonstrate a clear separation of the lexical representation of this category.

We must also notice that 32 comprehensive schools, equal to 11.11%, use various expressions alternately and that the use of *handicapped pupils*, which was assumed to be outdated, is instead present in as many as 64 educational institutions, equally accompanying the two majority expressions.

Going into more detail, when it comes to expressing the methods they intend to adopt for the design, implementation and evaluation of the activities, the institutes indicate *individualization* strategies for 77.78% equal to 224 schools and for 66.67% those of *personalization*. This second indication always appears together with the first; moreover, 64 institutes only identify strategies related to *individualization*, while the remaining number of institutes decide not to express this data in the documentation. Continuing to search for any relationships between the data in our possession, it seems interesting to underline that the 64 educational institutions that identify only *individualization* strategies are the same ones that also adopt the term *integration*.

The last aspect to underline is the general use of group work as a way of conducting activities in the classroom. It is particularly significant to notice that 32 schools have made explicit the activation of level groups to which, in a more in-depth reading, newly arrived *foreign* or *non-Italian-speaking* pupils who are unable to master the Italian language and pupils with complex disabilities are destined.. These 32 schools are included

among those that use, among others, the *terms insertion, individualization* and *handicapped pupils*.

2. The language, the speeches and the words in the PTOFs (Three-year Plan of the Training Offer) of the comprehensive Institutes of Tuscany

The documentary texts were treated by adopting the data analysis criteria inferable from secondary documents (Trincherò, 2002; Lucisano, Salerni, 2012) on the basis of the indicators of the analysis of language, speeches and practices described by some related scholars to the *Disability Studies Italy* approach, in order to identify the documentary parts that respond to the conceptual model of integration and those relating to the conceptual model of inclusion (D'Alessio et al., 2013). The criteria proposed by the reference authors have been reworked by introducing the conceptual model of the *Relational Model* (Tab. 2.) to which it is believed that the Italian school can refer, especially with the new regulatory framework (Monceri, 2017; Piccioli, 2020).

VCD040 – Analysis of language, speeches and practices

<i>Indicators for the analyses of language, speeches and practices</i>			
<i>Aspects</i>	<i>Integration</i>	<i>Relational Model</i>	<i>Inclusion</i>
<i>Focus</i>	O c k p r f " c l o g f " c v ' v j g " u w d l g e v . " v j g " k p f k x l f w c n ' y j q " o c p k t g u u " c " f g h e k ' c p f " v j g " t g u r q p u g u ' v q " g z r t g u u g f " p g g f u	O c k p r f " c l o g f " c v ' v j g " t g r e v k p u j k r " d g v y g g p " v j g " e a p f k k q p u " q h ' k p f k x l f w c n u " c p f " v j g " t g u r q p u g u " q h ' v j g " e a p v g z v	O c k p r f " c l o g f " c v ' e a p v g z w ' v j c v ' r t g x g p v ' v j g " r c t v e k r c v k a p " q h ' c m ' r w r k u " c p f " v j g k t " u a e k e r ' c p f " g p x k t q p o g p v c r ' k p v g t c e v k a p u
<i>Theoretical reference model</i>	O g f l e c n k p f k x l f w c n	D i q / r u f e j q / u a e k e r ' o q f g n	F k u c d r k i " U w f l g u
<i>Actions and interventions</i>	O c k p r f " d c u g f " q p " e q o r g p u c v k p i " v j g " f g h e k ' v j t q w i j " k p v g t x g p v k a p u " c l o g f " c v ' v j g " k p f k x l f w c n	k p u r k t g f " d { " v j g " r t k p e k r r g u " q h ' t g c u q p c d r g " c e e q o o q f c v k a p " c l o g f " c v ' t g o q x k p i " d c t t l g t u " c p f " c f q r v k p i " t c e k r k v c q t u	V j g { " y k n ' v g p f " v q " k o r r g o g p v ' v t c p u h q t o c v k x g " r t q e g u u g u " q h ' q t f k p c t { " v g c e j k p i " r t c e v l e g u " k p " q t f g t " v q " t g u r q p f " v q " v j g " f k t r g t g p e g u " q h ' c m ' r w r k u
<i>Context of reference</i>	U e j q a r ' g p x k t q p o g p v ' v j c v ' y k n ' o c k p v k p " k u " e j c t c e v g t k u k e u " k p f g r g p f g p v ' l t q o " v j g " u w d l g e v " y j q " k p j c d k ' w	U e j q a r ' g p x k t q p o g p v ' u g g p " c u " c " d c t t l g t t c e k r k v c q t	U e j q a r ' g p x k t q p o g p v ' u g g p " c u " c " u a e k e r ' u f u g o " k p " t g r e v k a p " v q " v j g " g p x k t q p o g p v ' q w u l f g " v j g " u e j q a n " t g u r q p u l d r g " h q t " c p { " f k u c d r k i " q h ' v j g " r g t u q p

<i>Disability</i>	F guetldgf " cu" c" ej ctcevgtkume" qh' c" ur gelcrl'gf " h' vtgu	F guetldgf "y kj kp"vj g" kpvtcevkqp" dgw ggp" vj g"gpvcpf " cpf " vj g" r gtuqp" y kj " c" f gh'ekv	K'y km'wtp"qww'vq"dg"c" r tqf wev' qh' vj g" ko r rgo gpvqf " gzenukqpc{ "cevkqpu
<i>Difference</i>	K'y km'go gti g"kp"vj g" hqto " qh' c" r cvj qraqi lecr' f gh'ekvqp" qt" c" ercuuk'cevkqp" qh' cdk'k'gu"y kj "tgur gev' vq"vj g"pqto	K'y km'go gti g"kp"vj g" tgr'ekvqpj kr "dgw ggp" vj g"eqpf kvqp"qh'vj g" kp' k'kf vcr' cpf " vj g" eqpvz v	K' y km' dg" pqvj kpi " o atg"vj cp"cpqto cr' j wo cp"eqpf kvqp
<i>Decision making processes</i>	No kgf " vq" gzej cpi gu" dgw ggp" r tq'guukqpcnu" cpf " hco k' "o go dgtu	Clo gf " cv' tgo qxkpi " dctt'kgtu" cpf " qduvcrgu" vq" kp' k'kf vcr' r ctv'ekr cvkqp	Vj g{ " y km' vqpf " vq" kpxqrxg" r gqr rg" y kj " f kucdk'k'gu" y j q" y km' dg" cv' vj g" egpv'tg" qh' vj g"r tqeguugu
<i>Approaches to teaching and learning</i>	Ej ctcevgtk'gf "d{ "vj g" r tgugpeg" qh' ur gelcrl'gf " h' vtgu" cpf "vj g"r r'ppkpi "cpf " ko r rgo gpcvkqp" qh' kp' k'kf vcr'gf " cevk'k'gu" f gxgr'gr gf " hqt"gej "ukpi rg"r wr k' kp" tgr'ekvqp" vq" j ku" qt" j gt" f h'lewn'k'gu" kp" c" rgctpkpi "eqpvz v'vj cv' f qgu"pqv'ej cpi g" hqt" vj g"tgo ck'kpi "r ctv'qh' vj g"r wr ku	Ej ctcevgtk'gf " d{ " cf cr'cvkqp" r tqeguugu"vj cv'o qxg" y kj kp" vj g" rto ku" qh' tgcuqpcdr'gpguu" cpf " y j lej "cht'gev'dqvj "vj g" r r'ppkpi "qh'cevk'k'gu" hqt" vj g" ukpi rg" r wr k' cpf " vj g" eqpvz v' uwdl'gev'vq"ej cpi g"kp" tgr'ekvqp" vq" vj g" r tgugpeg" qh' d'ctt'kgtu" cpf " qduvcrgu" vj cv' y km' dg" tgo qxgf " kp" h'cxqwt" qh' vj g" cf qr'vqp" qh' h'ek'k'cvqtu	Vj g{ " y km' ugg" vj g" h'qewu"uj kv' h'qo "vj g" eqpegr v' qh' ur gelcrl'cvkqp"vq"vj cv' qh'eqo r gvgpeg"r'qt"cm' vj g" r tq'guukqpcnu" kpxqrxg" " kp" vj g" k'penukxg" r tqegu" vj tqwi j " vj g" r gtuqpcrl'cvkqp" qh' rgctpkpi " r tqeguugu" cnuq" vj tqwi j " vj g" cevk'cvkqp" qh' y kf gur tgcf "uwr r qtv

From the documentary analysis, following the criteria of Tab. 2., it was possible to detect that all 288 comprehensive Institutes in Tuscany use languages and describe contents relating to both the concept of integration and the concept of inclusion.

In all the PTOF (Three-year Plan of the Training Offer) we can find specific references to the integration/inclusion of pupils with SEN, a choice perhaps not entirely free as the school must ensure the application of current regulations. These specific references can be found mainly in two parts of the PTOF, the organizational one and the project related one.

In the organizational part, all the comprehensive Institutes of Tuscany explain the processes adopted to respond to regulatory requirements, general indications are given on which strategies to use to favour the integration/inclusion of students with SEN, each in relation to belonging to a specific category of pupils and references to specific documents and protocols for the treatment of each category of SEN are inserted.

Various initiatives appear in the design part. The project activities are generally aimed at pupils with SEN but some differences can be identified

as 12.15% of the institutions in the sample involve the entire institution and the local community within the activities relating to the identified projects; about 10.07% addresses project activities to guarantee school attendance to pupils with serious relational and communicative disorders while the remaining 77.78% addresses project activities in a generic way to pupils with SEN through the activation of project activities such as theatre, garden, music and other ones.

All the institutions declare that they favour classroom activities for pupils with SEN, but all also provide for the possibility of carrying out individualized activities in more structured spaces for some types of intervention. The explicit reference to the adaptation of the school context to the needs of pupils can only be found in 10.07% of institutions that implement courses to ensure school attendance for pupils with severe relational and communication disorders.

Furthermore, alongside the 11.11% of institutions that explicitly provide for the activation of homogeneous groups of students, we must highlight the presence of a further 15.28% that provides for the possibility of using only some spaces for students with complex disabilities and who show serious functional impairment. In 10.07% of cases, this latter possibility is also accompanied by some organizational specifications, providing for a greater simultaneous presence of autonomy and communication assistants within the dedicated spaces and a reduced presence of support teachers. This phenomenon seems to concern more the lower secondary school; in fact in 79.31% of the institutions that provide for this possibility, this is inserted within projects or organizational systems aimed at this segment of education, but we must however point out that the remaining 20.69% inserts this possibility in a generic way within the PTOF, without further specifications, thus opening up to a potential widespread use of this practice.

This possibility turns out to be detrimental to the rights of pupils, contrary to the Italian reference regulations, a symptom of a failure to assume not only the construct of inclusion but even that of insertion and which precipitates these schools into practices attributable to the phase prior to that opened by the promulgation of Law 517/1977, or the phase of separation.

All the comprehensive Institutes in Tuscany have foreseen, following self-assessment processes, actions to improve school integration/inclusion.

From the general documentary analysis it emerges that the conceptual model of the *Relational Model* and that of inclusion are not an alternative to the conceptual model of integration but appear to be its subsets. This condition can on many occasions be attributable to the need to respect the reference legislation but it can also be considered as a point of no return, as a fact acquired by all schools, as the conceptual model that emerges against the light in all Institutes including the Tuscany and which perhaps has characterized the Italian school for more than forty years.

This figure, while it certainly appears negative for our specific area of interest, is entirely positive in relation to the choice made many years ago and which still makes our country proud to have made it today. However, some data show that a process is still underway and that the conceptual model of the *Relational Model* is more present than one could imagine.

Focus

We can note that the PTOF (Three-year Plan of the Training Offer) of the institutions adopt the categories of pupils contained in the regulations and provide for specific paths and interventions but, at the same time, all focus on the context and the importance that this covers for the purposes of integration/inclusion, while only 2 of them see context as a disabling element. This highlights the fact that the focus of the school documents of the sample is certainly not inspired by the conceptual model of inclusion but belongs to that of integration and of the *Relational Model*.

2.1. Theoretical reference model

The theoretical model that is most commonly encountered is the medical-individual one but 32 comprehensive Institutes explicitly adhere to the ICF's bio-psycho-social theoretical model and only 1 institution is close to the theoretical model of Disability Studies, with particular reference to the social model of disability.

2.2. Actions and interventions

All comprehensive Institutes provide for individualized and personalized compensatory and dispensatory interventions for pupils falling within the various categories of SEN, as required by the relevant legislation. Among these, 126 institutes provide for the activation of adaptation processes of activities in relation to the presence of pupils with SEN; 2 provided for the activation of transformative processes of teaching practices for all pupils, the adoption of both distributed supports and internal gradualness in the learning and teaching processes for all; 5 provide for special interventions and 2 for rehabilitation.

This distribution shows that as many as 43.75% of the comprehensive Institutes of Tuscany situate their actions and interventions within the conceptual model of the Relational Model, only 0.69% within the conceptual model of inclusion and that the conceptual model of integration, although it belongs to all institutions, is actually adopted by the remaining 55.56%. Among the institutes that are located within the conceptual model of integration, 7 appear, equal to 2.43% of the sample, which certainly show a more resistant position, more similar to the phase of separation and a medical-individual approach.

2.3. Context of reference

One of the most distinctive elements of the conceptual model of the *Relational Model* and of inclusion is certainly the vision of the context as

a contributing or determining element of the condition of disability, unlike the conceptual model of integration, which tends not to evaluate this element, concentrating its own focus on the condition of the individual. Having made this first distinction, we must point out that all the comprehensive Institutes of Tuscany declare that they belong both to the conceptual model of integration and to that of the *Relational Model*, providing as a reference context both the ordinary class for all students with SEN and the possibility of making activities outside the classroom, in relation to specific interventions.

It might seem a contradiction but in reality this confirms the phenomenon of *micro-exclusion* highlighted by S. D'Alessio (2011, 2013; D'Alessio et al., 2013), such as that of *push and pull out* detected by H. Demo (2014, 2015; lanes, Demo, 2013). Only 12.15% of institutions can instead be placed within the conceptual model of inclusion as it provides for the involvement of the entire local community for the implementation of projects aimed at promoting the scholastic and social inclusion of all pupils. A particular discourse should be made in relation to the 15.28% of comprehensive Institutes in Tuscany that deviate from the conceptual models taken into consideration as it provides for the possibility of using only some spaces for pupils with complex disabilities and who manifest serious functional impairments. This possibility places as many as 44 institutions within the conceptual model of separation, a fact that is considered very serious, detrimental to the fundamental rights of the person with disabilities and which deserves further investigation.

Therefore, taking into consideration the entire framework relating to contexts, 15.28% of the comprehensive Institutes in Tuscany can be placed within the conceptual model of separation, 12.15% within the conceptual model of inclusion and the remaining 75.57% in the conceptual models of integration and of the *Relational Model*, with phenomena of *micro-exclusion* and *push and pull out* previously mentioned.

Disability

All comprehensive institutions consider disability as a condition of the individual, which, however, is related to the context in 20.14% of cases, and only in 0.69% of the sample can this be the result of the exclusionary actions implemented by the functioning itself of the school and social system. Once again, the idea of disability arises within the conceptual model of integration but then is divided into the other two models; moreover, in many cases a distinction is made between the concept of integration, aimed at pupils with disabilities and that of inclusion, considered a supra-system that affects all pupils. This concept derives directly from the legislation that places pupils with disabilities within the broader range of pupils with SEN.

Difference

However, it is with the concept of difference that we can most appreciate a greater definition of belonging to a specific conceptual model. The 66.67% of the sample considers the difference through its classification, keeping normality as a reference background. In 32.99% of cases the difference is considered as a common element for all individuals; within this percentage there are 28.12% of comprehensive Institutes in Tuscany which consider the difference within the paradigm of the *special normality*, placing the condition of the individual in relation to a context where diversity is a special form of normality. Only 0.35% of the sample defines the difference as a normal human condition, thus overturning the initial paradigm. Analysing these data further, we can consider that 66.67% of institutions are located within the conceptual model of integration, 28.12% in that of the *Relational Model* and the remaining 5.21% within the conceptual model of inclusion, made up of institutions who consider the difference as a common element to all individuals beyond the vision of the *special normality* and from the institutions that consider it as a normal human condition.

2.4. Decision making processes

Once again, decision-making processes once again become an element that places all the institutions of the sample in the conceptual model of integration and then declines with a 12.15% that extends the involvement in these processes to the entire local community and a 0.35% that makes explicit reference to the direct involvement of pupils with disabilities too.

2.5. Approaches to teaching and learning

Even the approaches to teaching and learning give us an image of the comprehensive Institutes of Tuscany that is placed within the conceptual model of integration and then differentiates itself with 10.07% of cases that are located in the conceptual model of the *Relational Model*, providing for the reasonable adaptation of the planning and implementation of activities for all in relation to the needs of pupils with severe relational and communicative disorders and a 12.15% that is located in that of inclusion, making explicit the need for all figures working in the school they must make their contribution to inclusion through their skills. However, it makes us think that the idea of reasonable adaptation becomes explicit only in the presence of pupils with severe relational and communication disorders and that 77.78% of the comprehensive schools in Tuscany do not feel the need to go beyond mere compliance with the law.

Trying to read what emerged from the analysis of the speeches and words contained in the PTOF (Three-year Plan of the Training Offer) of the 288 comprehensive Institutes, we can propose a summary contained in Tab. 3.

VCD050– Summary of the PTOF analysis of the 288 Comprehensive Institutes of Tuscany

Summary of the PTOF analysis of the 288 Comprehensive Institutes of Tuscany				
Aspects	Separation	Integration	Relational Model	Inclusion
Focus	/	100%	100%	0.69%
Theoretical reference model	/	88.54%	11.11%	0.35%
Actions and interventions	2.43%	53.13%	43.75%	0.69%
Context of reference	15.28%	75.57%	75.57%	12.15%
Disability	/	100%	20.14%	0.69%
Difference	/	66.67%	28.12%	5.21%
Decision making processes	/	100%	12.15%	0.35%
Approaches to teaching and learning	/	100%	10.07%	12.15%

(Not at all) Conclusive reflections

Perhaps we should welcome the provocation of R. Slee (2011) and start thinking about the need to move towards what he defines as an *irregular school* capable of breaking patterns, times and methods typical of the *regular school*, by its selective and discriminatory nature.

It is quite disconcerting that in analysing the language, the speeches and the words that the comprehensive Institutes of Tuscany use within their PTOFs, not only the conceptual model of inclusion appears very much declared but very little practiced, but even the need to recover a conceptual model considered outdated such as that of separation emerged.

The analysis of language thus manifests all its power because it is able to reveal the profound meanings that are badly hidden in the discursiveness of the representations. So far, which conceptual model does language, as a cultural signification, make visible through the school documentation?

The development path of the Italian legislation for school inclusion has gone through several fundamental stages that have led us to the current phase, characterized both by internal contradictions and by notable peaks of progress, where what is declared often does not correspond to the operational contents, where to inclusive founding principles risk not to correspond inclusive practices, where it is the same respect for regulations that leads to a gap in the adoption of perspectives more responsive to the conceptual model of integration rather than that of inclusion.

This reflection is even more evident from the reading and analysis of the PTOFs of the comprehensive Institutes of Tuscany, from which a deep rooting of the model of scholastic integration emerges. It is difficult for such rooting to evolve towards inclusion also in relation to the respect of the reference legislation that directs the writing and structuring of the PTOF towards its compliance.

There is thus a disconnection between the principles that are declared and that correspond to the values of the school and an organization and design that, necessarily, must respond to regulatory requirements.

This certainly does not mean that our school is not inclusive, that it needs to be completely redesigned; on the contrary, what inspired this work is the profound pride in a school model that still today sees in the conceptual model of integration its best and indispensable point of advancement.

It goes without saying, however, that in such a context, shifted towards effectiveness, efficiency and the achievement of a result, are *the last ones* who suffer the most from it, and the risk, unfortunately confirmed, not to move towards inclusion but to go back to dust a past down that saw the solution of a problem in the separation of paths.

Wounds never completely healed can be reopened; unspoken words that leave space for creative interpretations could also lead to the achievement of opposite positions; those are the spaces that must be filled, filled and healed so that it is no longer possible in our country to lose even one of our pupils, boys and girls.

When we try to identify a common space for discussion and encounter between the conceptual model of integration and the conceptual model of inclusion, the conceptual model of separation reappears; when we search for the language of speeches and the words that discursively describe culturally meanings connoted within the PTOF of the schools, this action shows all the incoherence and painful resistance of a culture that was believed and hoped to be outdated.

Perhaps it is precisely in the unfrequented paths that one can find useful tools for reflection for unhinging stratified mechanisms of practices that have never been completely overcome; perhaps it is thanks to the contribution of approaches opposite to the usual ones that new paths can be drawn; perhaps it is from the rediscovery of the strength and of the power of culture that meanings can be redefined, discursively redefined.

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Hidden Epistemologies. The Construction of the Vulnerable Subject in the Italian Educational Imaginary. A Grounded Approach within the Disability Studies perspective

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ABSTRACT: *This paper represents the first report of the biennial research, which the authors have been carrying since January 2020 through blended modalities out. The qualitative research relates to inclusive practices in Italian kindergartens and primary schools. Some kindergartens and primary schools of the regions Lazio and Tuscany are involved in the present investigation: six teachers have been interviewed so far, other six will be interviewed in the following months. Since the theoretical framework is that of Disability Studies – more specifically, Critical Disability Studies – the authors are interested in investigating those institutional, social and cultural practices that disable people. To conduct such research, we thought the constructivist Grounded Theory methodology was the best choice. Especially in the current historical period characterized by the health emergency, the use of online activities, which allows constant and shared reflection between each member of the research group, is a strength of the entire methodological system. Participants have appreciated their involvement – through some focus groups – in the re-elaboration of their interviews and in the academic meetings whose goal was to disseminate the research's state of the art.*

KEYWORDS: *Grounded Theory, Critical Disability Studies, inclusion, children's literature, COVID-19.*

¹ The paper is a multiple-hand work. Just to publication's aims we underline that Alberto Quagliata has written the Introduction, Michela Baldini the paragraph 3, Lavinia Bianchi the paragraph 4, Giovanni Castagno the paragraph 1, Ines Guerini the paragraph 2 and Fabiola Scollo has written the paragraph 5.

Introduction

The socio-educational inclusion of people defined as *vulnerable is an* issue on which rigorous and multidisciplinary reflection has been carried out for years (Canevaro, 2006; Goodley, 2011).

In this research, inclusion takes on the value of de-marginalization, social justice, resistance and emancipation and is investigated through multiple interpretive lenses, borrowed from the systemic and interacting paradigms of complexity (Bateson, 1979; Morin, 1993), postcolonial studies (Fanon, 1961; Sayad, 1999) and *Disability Critical Race Studies* (Ferri, 2018). This latter belongs to the perspective of Critical Disability Studies, according to which disability has an intersectional character. Moreover, it interacts with other characteristics (such as, for example, ethnicity, gender and sexual orientation) that usually cause experiences of marginalization.

Moreover, through a historical-pedagogical reconnaissance, we intend to focus on an integrating background that gives an account of the cultural roots from which the current normative-cultural-educational climate of inclusion practices in our country originates.

Significant traces of Italian identity's historical and ideological construction can be found in children's literature and educational materials designed for young pupils. Since the 1920s, the study of racializing and colonial representations in educational materials for children has been a privileged way to unveil practices of debasement and reproduction of hegemonic power in the construction of otherness (Sani, 2012; Pazzaglia, 2005).

Only since 2013, there has been an interest in teaching for inclusion on a normative level, i.e. how to include in the classroom those who fall under the label *Special Educational Needs*¹. This phenomenon has resulted in the medicalization of the educational context: schools persist in systematically resorting to different classifications (LSD; ADHD; disabled; etc.) that determines the special response that allows pupils to see their «special educational needs» recognized. It

An inclusive educational context designed to be inhabited by everyone (with the infinite vulnerabilities that characterize them) would be more appropriate to a priori design than simply *putting it in* (Medeghini, D'Alessio, Vadalà, 2013) those who find it challenging to stay there².

These are the motivations behind our research. We intend to question how institutional language describes, interprets, and manages different vulnerabilities and how this language informs the normative system

¹ This label indicates the socio-cultural, socio-economic and psycho-physical reasons why some pupils are 'in need of help'.

² It is difficult «to stay there» since the context is designed for the pupil who is considered to be *normotypical*: Italian, without disabilities, possibly not homosexual.

intended for socio-educational inclusion (sometimes, unfortunately, legitimizing practices of power reproduction).

1. Objectives and stages of the research

Considering inclusion as a complex and multi-problematic system-word, in view of the indispensable critical reflections promoted in recent years by Disability Studies (DS) on the individual-medical paradigm as the sole foundation of the conceptualization of deficit and on the institutional and social practices that cause exclusion, we intend to produce a substantive and medium-range *grounded theory* able to account for the problematic issue described in the context of pre-school and primary school in Italy.

Based on this problematic situation, the research group aims to pursue the following objectives:

- to generate a medium-range substantive theory on inclusive practices, taking into account the practical usefulness that a *theory of action* can have in supporting the operativeness of all the professional figures involved (teachers, educators, school managers, school staff, social workers) in socio-educational processes;
- to bring out the implicit and tacit epistemologies present in the group of participants and unveiling hegemonic practices of invisible segregation;
- to prepare and to share an action plan for socio-educational research in contexts of marginality and deprivation;
- to solicit from teachers and educators the necessary skills to effectively consider the heterogeneity of children's educational needs in light of a new socio-historical awareness;
- to encourage narrative thinking in teachers and educators (Bruner, 1986), enhancing the complementarity of cognitive and emotional learning and establishing a virtuous relationship between narrative thinking and logical thinking.

As far as its articulation is concerned, the research will be developed in the following phases:

- fine-tuning of intensive interviews and first-level theoretical sampling: identification of contexts and possible participants, reconnaissance of «material» sampling (children's literature, teaching materials, normative references and online platforms);
- process of analysis, comparison and drafting of memos to start the progressive co-construction of grounded theory and focus groups;
- second-level of theoretical sampling and analysis;
- co-construction of grounded theory;
- drafting of the research report and dissemination of the results with a seminar presenting the research results.

At each stage of the research, the methodological procedure will be checked, and a partial account of the process will be shared.

About theoretical sampling, we will ask how the sample was progressively selected and whether the data taken into account are sufficient to support the inferences produced.

Concerning process traceability, the focus will be on recursively assessing whether the interpretative categories have been empirically generated, whether the process of category generation is traceable, whether there are solid logical links between the analysis conducted and the data collected.

With regard to the theoretical background, the research team will rigorously assess at each stage: whether the interpretative concepts identified are systematically linkable to each other and based on which considerations the fundamental categories have been selected; whether the theory generated gives a meaningful account of the phenomenon studied and whether the results are linked to the current scientific debate on the subject; whether the categories and the process presented open up new perspectives; whether they are significant and challenging to established knowledge; whether they have a solid explanatory power; whether the theory generated suggests hypothesizes for change and innovation.

First steps in the research process

The researchers involved, who come from different fields of study (educational design for online education; children's literature; narrative processes; cultural and educational processes; didactics and special pedagogy), are firmly convinced of the importance of living research – and daily social commitment – in an inter-trans-multi-disciplinary way.

Children's literature and theatre form the basis on which the group has decided to co-design the research with the participants who will be involved.

In conducting the research, a blended process has been lived, using offline and online activities. In the current situation, characterized by the COVID-19 health emergency, the use of a blended pathway is proving to be essential: thanks to the Network, researchers can continuously share contents, suggestions and decisions, practices that were consolidated even before the first government restrictions were issued.

More specifically, to conduct the research online, a unique space was created on the Formonline platform of the Department of Education Sciences of the University «Roma Tre» and a WhatsApp group to exchange information and food for thought in real-time. These tools were then joined by a Skype group, through which it was possible to meet several times online to reason together on the decisions to be shared.

Concerning the sensitizing concepts (that this report intends to describe), in a first step, the following elements were identified, linked to the *suggestions* considered most important by the individual members of the research group:

- gender education issue (girls' status is 'different' from that of boys);
- subordinate inclusion of migrant and or second-generation children;
- paternalistic pietism for migrant children and children with special educational needs;
- concealment of the racial and colonial question;
- medicalisation and racialisation;
- school materials steeped in a patriarchal culture;
- influence of bureaucratization and institutionalization on teachers' attitudes to change;
- criteria and objectives for selecting picture books;
- how is children's literature chosen, and for what function?
- is it an interdisciplinary and multi-use object?
- what messages do picture books convey?
- how do they specifically represent diversity?
- transformation of schools or de-schooling of society?
- pedagogical activism and cooperativism or transmission of concepts?
- neo-imperialism and dependency theory or post-coloniality?
- cultural taboos and conditioning or civil commitment?

These *suggestions* were the subject of shared reflection during the first operational meeting of the research team. At the end of the shared review, the sensitizing concepts are as follows:

- gender education (the condition of girls is 'different' from that of boys);
- subordinate inclusion of migrant and second-generation children;
- paternalistic pietism for migrant and vulnerable children;
- concealment of the racial and colonial question;
- medicalisation and racialisation;
- school materials steeped in patriarchal culture;
- bureaucratization and institutionalization in teacher education;
- picture books for storytelling;
- picture books and diversity;
- civil commitment as an antidote to cultural taboos;
- neo-imperialism, dependency theory and postcolonial studies;
- different didactics for an inclusive learning community.

Two issues still needed to be discussed to «improve» the awareness-raising concept: *Picture books as interdisciplinary and multi-use objects* and *Transformation of the school or de-schooling of society?*. The first was again discussed on the platform, leading to the following sensitizing concept: *Picture books as pedagogical mediators*.

During the second operational meeting, this awareness-raising concept was again discussed, finally becoming *Picture books as cultural mediators*, which was considered more relevant to the focus of the research.

The other 'uncertain' sensitizing concept was also compared and was finally synthesized through two distinct sensitizing concepts: *De-*

schooling in socio-educational contexts and Transformation of socio-educational contexts.

Therefore, the sensitizing concepts the research team decided to work on were the followings:

- gender education (the condition of girls is 'different' from that of boys);
- subordinate inclusion of migrant and second-generation children;
- paternalistic pietism for migrant and vulnerable children;
- concealment of the racial and colonial question;
- medicalisation and racialisation;
- school materials steeped in patriarchal culture;
- bureaucratization and institutionalization in teacher education;
- picture books for storytelling;
- picture books and diversity;
- picture books as cultural mediators;
- civil commitment as an antidote to cultural taboos;
- neo-imperialism, dependency theory and postcolonial studies;
- de-schooling in socio-educational contexts;
- transformation of socio-educational contexts.
- different didactics for an inclusive learning community.

Concerning the theoretical sampling, the choice fell on school contexts attended by children between 3 and 10 years old; the focus was on kindergartens and primary schools in Lazio and Tuscany regions.

Researchers have interacted with the head-teachers of four schools, to whom the letter presenting the research was sent.

In the Lazio region, a school of Cori (in the area of Latina) and another one in Fonte Nuova (in the area of Rome) were reached; in Tuscany, a school in Certaldo and one in Montespertoli (both in the area of Florence) were contacted.

The head-teachers of the four schools were very interested in the project. But, obviously, due to the suspension of teaching caused by the health emergency, it was not possible to meet them to define the actions to be jointly carried out in detail.

Moreover, the research group has reached the head-teachers of two other schools, with whom will collaborate as soon as it is possible to resume teaching (and research) in person.

3. Epistemological references

To map the epistemological references related to the inclusive process as a whole – the process of socio-educational inclusion of vulnerable people investigated by this research – request to consider the recent publishing production and especially that part related to children's literature.

This literary sector has proved capable of going well beyond the paternalistic pedagogical approach initially characterized by its birth,

revealing itself as a flourishing narrative terrain capable of conveying thematic textures of uncommon emotional and educational power. Children's literature, thanks to its «complex and plural identity» (Bacchetti, 2013, 15), turns out to be a crossroads of languages and themes very fruitful, privileged and protected space in which to experience the unknown, as well as the unknowable (Terrusi, 2012). Supposing literature can be defined as 'a true daydreaming' (Gramsci, 1966, 108), it is possible to determine children's literature as an alternative world in which to experience what – for one reason or another – is outside the subject's life habits. Pedagogy should not underestimate the potential offered by children's literature, which can contribute to the education of readers and help educators by providing them with the correct key to interpreting behavior that would remain difficult to understand without the help of the pages of books. The study of the imaginary is also an exciting and complex subject of research we cannot separate from a careful and critical analysis of literary works dedicated to childhood that contribute to the formation of that imaginary, shaping and modifying it in a *continuum* that winds through the centuries (Beseghi, Grilli, 2011).

Within this framework, there is a current of children's literature that has taken on the task of education, proposing an exploration not only of the world around the reader but, more generally, of what is 'other'. This inclusiveness is necessary to offer effective educational interventions in a landscape that cannot ignore an epistemology of complexity. The constant search for a language that is as 'universal' as possible has led, in recent decades, to the revival of iconographic narrative forms. The works reflecting these characteristics – thanks also to the rise in editorial quality and edited publications of silent books of great value – have proved capable of increased effectiveness and a more inclusive approach than classic textual narration (Terrusi, 2012; Zizioli, 2017). The picture book proves to be a medium capable of integrating multiple and complex levels of the message resulting in amplifying its ability to act as a bridge of contact between different realities and proving a privileged vehicle to promote encounter and dialogue (Lepri, 2016).

Alongside these convictions, which we share, there is still a solid approach imbued with the thought of Benedetto Croce. But, unfortunately, this vision tends to make the literary nature of the text coincide with its aesthetic dimension, contributing to building a sort of pedagogical confinement of Children's Literature and, even more so, of one of its privileged tools today, the picture book. Only a process of debunking the book and reading can keep us safe from this risk. Therefore, it is necessary to recover the anti-Proustian vision of which Rodari's (2014) *Nine ways to kill reading in children*, Detti's (1987) work on the pleasure of reading and, more recently, Pennac's (1993) so-called «Ten rights of the reader» are examples. The authors insisted on the centrality of the subject and on the category of pleasure as a condition to

be privileged to activate a positive process when proposing the attendance of literary texts to readers, and even more so to children.

In the wake of these references, and within the motivational framework described by Blezza Picherle (2013), it is easier to understand our reflection, functional to develop a dynamic relationship between reader and book. As if it were a place, we can explore the narrative to find senses, meanings, values and ideas about the world. We imagine a «decolonization» of the figure of the teacher that makes the reader become a proactive co-protagonist in the relationship between teaching and learning and an active subject in the creation of an educating community capable of sharing opinions and reflections to support the construction of a problematic, non-sanctioning vision of reality. This relationship identifies in the process, in the emotional and physical journey, the most profound and most crucial moment of the relationship with reading.

4. Methodological indications

The qualitative methodology turns out to be the best choice for complex phenomena of ethical relevance: being «dislocated and positioned» in a creaturely universe suggests the choice of an epistemology and methodology consistent with each other and with the multi-problematic context of the research.

The research design is undisciplined (Morin, 1993) and intersectional: the framework for studying marginalization and subaltern inclusion in schools is borrowed from the intersectional model of Disability Critical Race Studies (Connor et al., 2016).

Consistent with the research context and the epistemology of reference indicated, the *Constructive Grounded Theory* methodology (CGT) was thought to be the *best choice*: having as a basic assumption the co-construction of meanings, CGT is particularly suitable to explore constantly changing and multi-problematic environments.

Bearing in mind Michalko's (2016) warning, which reflects on how little inequality studies seem to have achieved, we propose building a CGT that includes a creaturely universe and aims to produce a theory of action (Charmaz, 2014; Bateson, 1979). Being oriented towards *social justice education* (Charmaz, 2014), CGT is consistent with the paradigm of critical pedagogy, which explores issues and practices that unveil implicit injustices and inequalities in society to make them explicit and to prepare interventions: for example, the sexualization and racialization denounced by Bell Hooks (1990) and the contradictions and double constraints that exist in processes of emancipation from forms of acculturation that stifle critical thinking.

The CGT suggests studying inclusive practices in a socio-educational context starting not from an epistemic question but from a problem perceived as relevant by the components of the community involved.

Since the investigation of processes is central, the emphasis is on how other instances contribute to the construction of an educational imaginary (Charmaz, 2014): indeed, the theoretical sampling³ will be composed of both study subjects (teachers, educators, school managers, parents), children's literature and textbooks, and institutional and normative sources. Therefore, the institutional language will dialogue with the live «words» of the privileged interlocutors and the various languages of didactics and literature addressed to children in pre-school and primary school.

The sensitizing concepts⁴ (Blumer, 1969) support and guide the development of the intensive interview, a research tool that our working group is using. The intensive interview is conceived by Charmaz (2014) as a gentle guide aimed at sharing and negotiating meanings.

«The literature analysis and theoretical framework are ideological 'places' in which one affirms, locates, evaluates and defends one's position» (Charmaz, 2014, 305). Literature is therefore always present in the process stages, assuming greater or lesser relevance according to the initial processing of data and the orientation they suggest. But, on the other hand, literature is the ideological backbone of any research design, precisely because the researcher is – could not help but be – a positioned and an exposed person with a cultural identity. Baldacci (2001, 152) writes on this subject:

each instrument encodes the researcher's «view» according to a certain point of view and therefore intrinsically contains an interpretative perspective.

Moreover, the choice of instruments depends on theoretical assumptions, on implicit models.

Honestly explaining hypotheses and processes in progress preserves from methodological pitfalls: as Glaser (2001) writes, taking interpretative responsibility and reporting it in an honest and systematic way is necessary for research to be useful, relevant and adaptable (fit, work, relevance, modifiability) and, according to this research group, also (especially) to be ethical.

4.1. The first phase of theoretical sampling

In this sampling phase, we conducted six intensive interviews with privileged witnesses and two focus groups.

³ Theoretical sampling is a data collection process in which the researcher simultaneously collects, codes and analyzes his or her own data and, based on this, decides what further data to collect and where to find it, in order to develop the theory as it emerges (Strati, 2009, 75).

⁴ Sensitizing concepts constitute a kind of heuristic compass and conceptually replace the experimental hypothesis.

The research team coded the interviews, proceeding in a shared and recursive manner by identifying initial lines of meaning and relationships between the nodes identified.

After the open coding phase, where over 150 nominal labels emerged, the research team proceeded to the focused coding. The procedure was characterized by process comparisons in *itinere* and by a constant comparison within the research group.

This phase resulted in the identification of 12 provisional categories and their explanatory properties.

TAB. 1. *Category and properties identified*

<i>Category</i>	<i>Properties</i>
Implementing inclusive educational practices	inclusion as a 'choice', NOT as a project; distance learning amplifies 'non-inclusion'; always work with the whole class; overcoming gender prejudices
Implementing constructivist teaching practices	the goals are the students; giving the word, telling stories
Reflecting on one's teaching practice	education is 'naturally' inclusive
Unravelling cultural implicit	exclusionary and pathologizing mentalities hidden in the 'normality of words'
Acknowledging the need for gender education that counteracts (by making explicit the implicit) patriarchal discourse	overcorrection; manly child; masculine child; things for girls and things for boys
Responsibility of the educator	the feeling I can do more and better
Feeling unformed	recognizing the need for continuing theoretical and practical training, especially for support teaching
Policies and practices	what is really done at school and what is declared
Ministerial super-ego	the programme to be finished; not only carrying out the programme
Educational innovation	cooperative learning, blended design, play and drama, flipped classroom; picture books as teaching aids; love at first sight with the silent book; silent books and 'humanized' teaching work wonders; the 'right' scenario and the necessary organization; interpreting distance learning as pharmacon
Conflictual relational dynamics school-family and family associations	the family as the recipient of the educational offer, also thanks to distance learning; the family is the recipient of the educational offer, also thanks to the 'after-school'
Medicalisation of children with vulnerabilities	SENitization; ghettoization; exclusion endorsed by subordinate integration practices

5. Online co-participation practices: a research team at the time of COVID-19

This research path developed at the time of the COVID-19 pandemic. The exceptionality of the context is enhancing online resources (in a similar way to what is happening in training courses), and our research community, which was initially active also in the presence and later exclusively online, experiences the mixture of human relations and creative pragmatism typical of technologies. Our use of the online environment makes it possible to create a research community that is always present, not «confined» to predefined days, constantly evolving, flexible and elastic, attentive and effective in building a network of relationships; a community that brings to life a dialogue that goes beyond the walls of the physical classroom and its restricted timeframe.

Between mid-January and mid-March 2020, there were 33 contributions in our forum; we uploaded 16 documents to share on the platform; we had face-to-face meetings and 4 Skype meetings; we used email, WhatsApp and Drive for the shared writing of this report.

An attitude of openness and sharing is the first objective that an online community must (and can) pursue; in this respect, the thread introducing the people in the research team proved to be very effective: at the first meeting in presence, we already knew each other well, and later online meetings consolidated a climate of collaboration; in this respect, it is interesting to describe two areas of activity of our research community.

About sensitizing concepts, the first intervention of the thread served to «break the ice», and then we proceeded to the progressive reformulation of our suggestions and ideas; the phase of refining the sensitizing concepts with several minds was the result of online meetings and fruitful exchanges of ideas, intending to bring out the sensitivity of those who had proposed them, transforming them into explicit stimuli for everyone.

The construction of the bibliography was also an exciting process, as each of us has suggested manuals, books, articles, magazines, picture books to help build a shared theoretical base, choosing and selecting our paradigms of reference. For this work, we have used a vital section of Moodle, Group Files, in which it is possible to attach, with a brief description, documents of a multimedia nature (including links and sites on the Net) to make them accessible to the whole community.

We should devote a final reflection to how this report was written, which began as a shared writing operation: the point of view and interpretative sensitivity of each group member were integrated and enriched through the progressive contribution of the other people in our community. From this developing experience, it is becoming increasingly evident that the Net is a space in which it is possible to share the beauty and exponentially increase the relational availability of the group.

Conclusion

Consistent with the activities described above, the research team is proceeding towards the last phase of its CGT, the theoretical codification.

The «new» sensitizing concepts, developed from the memos and the many shared reflections, direct the work towards the constructs of convergence, pacification and conflict, highlighting the need to exemplify inclusive practices and situations of conflict/criticality experienced in acting out change. It also emerges the need to solicit relationships with colleagues and the school context in general, including managers, in a critical and deconstructive way.

The theoretical codification will see the birth of those core categories already taking shape as a structure that often connects idiosyncratic instances. Bureaucratization, inclusive practices, cultural implicit, paternalistic legacies, spontaneous voluntarism are categories that can be linked towards the awareness of the need for an urgent «turn» of the Italian school in the direction of a radical change that, overcoming the practices of inclusion, finally inaugurates the season of social justice.

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Misperceptions in the Social Construction of the Disabled Body. A Research in the Perspective of Disability Studies

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ABSTRACT: *Social representations of the body with disabilities have for centuries been associated with the idea of illness, lack, or abnormality. The body with disabilities has been seen as a 'monstrum', as a malformed body, the expression of a sin and a fault; as a sick body to be rehabilitated, as an infantile body. This way of representing the «disabled body» ended up orienting both attitudes and the social treatment of disabled people, through concealment, segregation, confinement, reification within domestic or institutional contexts. At most, the disabled body is object of pietistic glances, between disturbance and curiosity. For some years now, however, we have been witnessing a redefinition of what is considered a body worthy of being shown on the public stage: models with prosthesis win beauty contests; athletes show with ease their prosthesis; war wounded pose on calendars; many films and tv series have non-standard or non-conventional protagonists, far from the western cultural norms. Is this an important cultural shift or a form of defense by the social system which incorporates the otherness in order to normalize it? This paper intends to focus attention around the social representations of disability according to the theoretical and interpretative perspective of Disability Studies. The results of this research conducted with a specific survey tool will be presented, on the basis of a sample of male and female secondary school students. The purpose of the survey is to investigate the social representations of disability held by young people, paying particular attention to the sense of justice and fairness, to dichotomous ideas of independence/dependence, care/assistance, the claim of rights/sense of pity, legitimate/illegitimate body.*

KEYWORDS: *Disability Studies, Social Representations, Body, Ableism, School*

This article is the result of the authors' joint work. It should be noted, however, that Fabio Bocci is responsible for paragraph 1, Alessandra Maria Straniero for paragraph 2, Valentina Domenici for paragraphs 3.1 and 3.2, and Gianmarco Bonavolontà for paragraph 3.3. Conclusions are in common.

1. Theoretical framework

This report is based on a vast literature that investigates the relationship lasted for decades between the disabled body or those we may call «other body» and society (Foucault, 2007; Goffman, 2003; Stiker, 1982; Gardou, 2006); it refers to discursive rhetoric (Vadalà, 2013) and media representations (Monceri, 2012); it is a part of a specific branch of research that we are bringing on, already started several years ago (Bocci, 2005, 2012, 2013, 2020; Bocci, Bonavolontà, 2013, 2020; Bocci, Domenici, 2013, 2019; Bocci, Straniero, 2020).

Specifically, we have focused on perception and representation of «different bodies» defined as such because they embody a dissimilarity from the dominant bodily and behavioral norms in Western societies.

From a historical perspective, the body with disability has been seen as a *monstrum*; as a malformed body, an expression of sin and guilt; as a diseased body to be rehabilitated; as an infantile body.

This way of representing the «disabled one» has orientated both attitudes and social treatment «reserved» to people with disabilities: concealment, segregation, and confinement within domestic or institutional contexts.

In the best-case scenario, the disabled body is viewed through eyes of pity, through looks and glances mixed with disturbance and curiosity (Oliver, 1990; Stiker, 1997; Goffman, 2003; Ferrucci, 2004; Medeghini, Valtellina, 2006; Fiedler, 2009; Griffio, 2010; Carlson, 2015; Murphy, 2017). Charles Gardou (2006) talked about an insular existence, reified (echoing Marx), and (echoing Murphy) caged in a condition of liminality.

Today we are witnessing a redefinition of what is considered a body worthy of being shown on the public stage: it has become increasingly common to see models with prosthesis who participate to beauty contests; athletes who proudly show their prosthesis; films and television series with characters who are physically and mentally different from the dominant western cultural norms.

And it is precisely this redefinition that intrigues us. Are we facing a cultural shift, a social change toward a more democratic and ethical society?

Or is it just a superficial change that therefore does not transform the deep dynamics of social recognition and legitimation? Is it a change that affects only bodies with disabilities that somehow manage to fit into the idea of normality, because they satisfy certain values of neoliberalism?

Our hypothesis is that the change is superficial and not one of systemic nor structural.

That is, society has not changed its own paradigms of reference (the run-up to productivity, performance, autonomy, etc.) but has instead incorporated the «different bodies» (that are disciplined in the Foucauldian sense of the term), so that they finally appear *normal* as well, since they are normalized (Bocci, Domenici, 2019).

Nowadays the question of otherness no longer seems to have a marginal role but, on the contrary, has fully entered into the mainstream and it's at the centre of audiovisual narratives (films; tv and web series; commercials). Just think of hit tv shows such as *Game of Thrones*, played by Peter Hayden Dinklage, who is actually a person with achondroplastic dwarfism; or the sit-com *Big Bang Theory*, whose protagonists seem to be autistic subjects (in particular the character of Sheldon Cooper, who has many typical characteristics of the now abandoned, as a diagnostic label, Asperger's Syndrome). Reference can also be made to characters completely out of standard, such as Walter White, hero of the cult tv series *Breaking Bad*; or Shaun Murphy, the protagonist of the tv series *The Good Doctor*, who plays a high-functioning autistic (Savant Syndrome, to be exact), landed in prime time in the flagship network of Rai (Bocci, 2019). In practice, the category of normality is not questioned as an agent of discrimination and exclusion, but it is simply enlarged to include other bodies – not all of course –, as long as these bodies remain inside the framework in which Western society recognizes itself. In this way, the different bodies are immunized (according to the concept of immunization proposed by the Italian philosopher Roberto Esposito), causing them a loss of their potential transformative force. In other words, society encompasses them, incorporates them, and somehow neutralizes them.

2. Bebe Vio case study

Let's take an example from advertising in Italy. The Italian fencer Bebe Vio, star in many commercials and frequent guest on many mainstream television programs, is now an example of positivity and joy, a contemporary heroine. Her presence in the media has radically altered the traditional narrative of physical disability, considering that the presence of people with disabilities on Italian television appears historically to be under-represented or anyway limited to the emotional tellings, linked to the material difficulties encountered in daily life (CENSIS, 2010; Bocci, Domenici, 2019). In a study by Melchior (2020), some commercials where Bebe Vio is the protagonist are analyzed. The description of the commercials shows that the champion is never shown in passive attitudes but always in activity; the back image is that of a visibly skilled person, despite the presence of the prostheses. Another characterizing element is the absence of social relationships: Vio is almost always represented alone and even when other people appear on the screen, they never enter into an effective relationship with her. At last, the protagonist is always immersed in exceptional and extraordinary situations. From this brief description we understand how much the typical narrative of the media about disability is completely absent: the medical dimension is missing, there is no reference to disability nor to the idea of being able to do whatever, as well as dependence on others

or vulnerability, and emotional tragic perspective neither. This radical modification of the narrative is due on the one hand to the staging of Vio's willpower and, on the other, to the presence of the prostheses that allow her not only to overcome the impairment but to become extraordinary, that is, out of the ordinary (certainly out of «normality» of being disabled, as it is commonly represented). It seems to us, therefore, that, in order to become a symbol of overcoming the difficulties caused by disability, a model of positivity and *joie de vivre*, it was necessary to make Vio adhere to those typical ideals of neoliberal societies, which are performativity, skills, success, individualism, independence, self-control. These are at the very basis of the myth of the able body which instead of being questioned or deconstructed gets actually stronger. In the neoliberal vision, on the other hand, investing in oneself, control of one's own body, especially in the long term, and responsibility towards one's life become crucial. Individuals become worthy of attention, recognition and legitimation by society only if they, and their bodies, are perceived as objects of investment, first of all by the individual himself, who takes care of himself (Foucault, 2004; as cited in Bocci, Straniero, 2020). As Casalini writes, «All bodies of all sizes and all complexion colors, no matter if able-bodied or not, if old or young, can be valid if an investment / consumption is possible on them» (Casalini, 2017, 584). The way Vio's body is represented in the media shows how to make acceptable and representable her body are the principles of neoliberalism, among which we may name performance, ability, success, individualism, independence, and self-control.

Certainly, there are many other examples in TV, movies, commercials etc.

3. Methodology

3.1. Sample

We decided to test our hypotheses through a specific questionnaire called «*QueIVeD Questionnaire Images, Visual Imagination and Diversity*».

Here we present first and partial results of our survey aimed at investigating the social representations held by young people (aged between 11 to 23) about disability. Particular attention was given to sense of fairness, equity, and opposition of ideas such as independence/dependency, care/assistance, demands for rights/sense of pity, legitimate/not legitimate body.

We decided to administer the questionnaire to young people for two main reasons:

- because they are Millennials, born and raised in the age of social media, in western multicultural societies

- because these students live in a society where the inclusion of diversity is one of the main values of the education system.

3.1. Tools and procedure

The questionnaire is composed of 56 questions, most of which are closed-ended and divided into 3 parts: the first and general part (items 1-8) aimed at describing the characteristics of the sample; the second and more specific part (items 9-37) aimed at investigating social representations of disability using a series of pictures of various people; the third part (items 38-56) aimed at analyzing the dichotomies previously exposed through the degree of agreement with a series of statements.

Section 1 presents a series of images of characters for each of which a description is requested, responding to these requests: «This person is a / a... or This person is the / the...». No answer options were given, but we preferred to leave an answer open. The goal was to bring out the idea of the role (social, media, etc.) that those characters can play in their lives possessed by students, without risking giving any guidance in the answers. In particular, we were interested in understanding the perception of the young students in front of images of characters unknown to them. After viewing the image and the first question, another question follows: «Did you already know this character?». If the answer is «Yes», the participant can proceed to the next question. If the answer is «No» (in the case that the character displayed is not known to the participant), another portion of the screen is displayed in which the descriptions of the characters and the question with alternative answer have been inserted (very, quite, little, not at all): «How surprised is this information?».

We have selected personalities from sports, entertainment, cinema, politics. Here are some examples: Sara Gama, soccer player, captain of the Italian national team and sports manager; Peter Dinklage, actor, well-known protagonist of the TV series *Game of Thrones*; Aaron Philip, transgender model with disabilities; Audrey Tang, Taiwanese Information Technology and Technology Minister; Bebe Vio, multiple fencing champion of the Italian Paralympic national team.

The survey was conducted through the use of an online questionnaire administered during the month of May 2021, with voluntary student participation. The identification of the survey units was done through non-probabilistic snow-ball sampling.

4. Results

A total of 77 replies to the questionnaire was recorded. Approximately 47% of the participants are aged from 12 (twelve) to 17 (minors), while the remaining (approximately 53%) are over the age of 17 (adults).

Regarding the type of school attended, almost half of the participants (48.1%) come from technical schools, 45.5% of the sample are attending the high schools (Italian high schools) and the remaining 6.5% are attending the first year of secondary school (middle school).

97.4% of the participants state that they do not have a disability, 88.3% do not have learning difficulties, 93.5% do not have a specific learning disorder. When asked: «Are you a person who considers themselves neuro-diverse?», 88.3% answered no, 3.9% said yes.

In general, the results show that the average participant leans towards a non-discriminatory view.

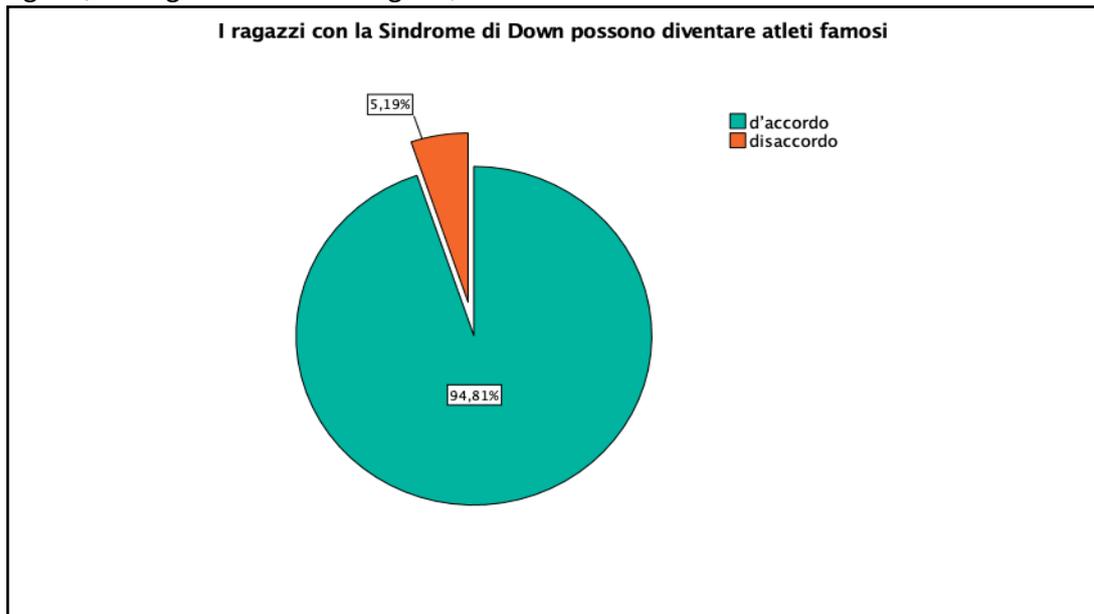
This is clearly true for statements that have as their underlying opposition pair of ideas legitimate body/not legitimate body; here the sample was explicit, expressing disagreement with statements claiming that it is impossible for disabled bodies to attend beauty contests or sports competitions («A person who has prosthetic legs is better off not participating in a beauty contest», Fig. 1; «Boys with Down Syndrome can become famous athletes», Fig. 2).

This could be read in two ways: on one hand these young people were born in the age of inclusion and therefore have an inclusive vision of society and relationships; on the other in recent years there has been a lot of talking, even at the mainstream level, about diversity, which girls and boys that composed our sample do not seem indifferent to.

FIG. 1. A person who has prosthetic legs is better off not participating in a beauty contest (green colour = agree; orange colour = disagree).



FIG. 2. Boys with Down Syndrome can become famous athletes (green colour = agree; orange colour = disagree).

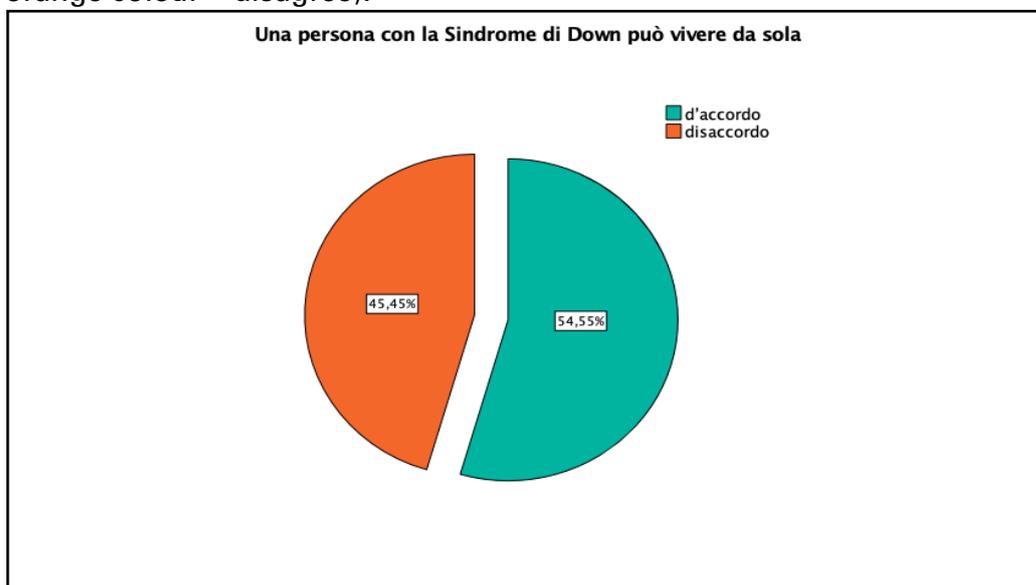


However, it is interesting to further examine some of the responses provided.

When asked: «A person with Down's Syndrome can live alone», 54.5% of the sample state that they agree, 45.5% disagree (Fig. 3).

Thus, it appears that a substantial portion of the participants do not believe that people with Down syndrome have the ability to live, with all necessary support, independently. It is possible that there is a lack of knowledge concerning the experience of people with Down Syndrome who live independently in different parts of Italy.

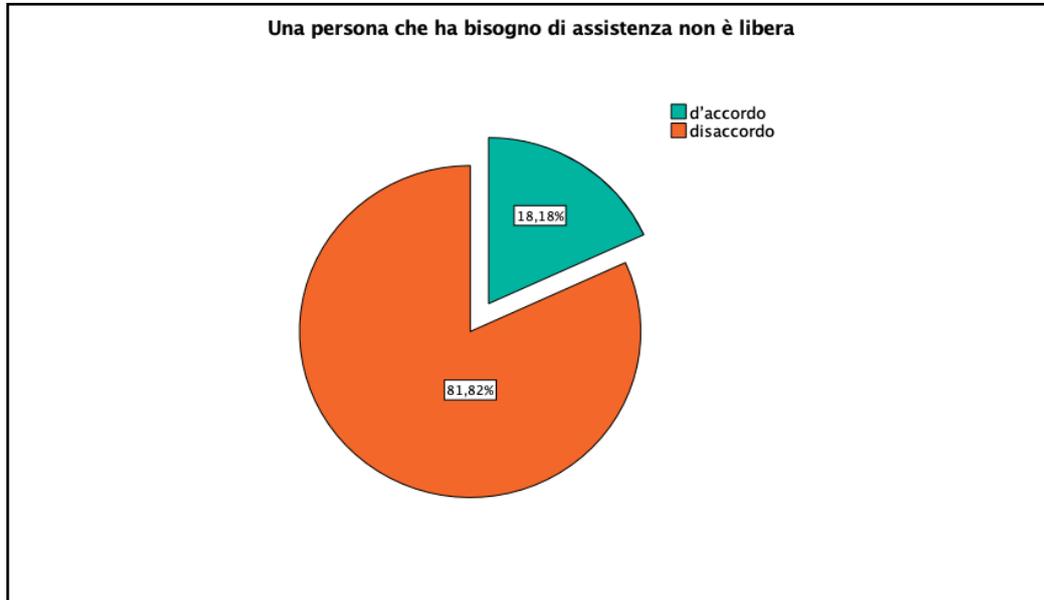
FIG. 3. A person with Down's Syndrome can live alone (green colour = agree; orange colour = disagree).



This opinion is also confirmed by answers to the statement «A person who needs assistance is not free», 18.2% agreed (Fig. 4).

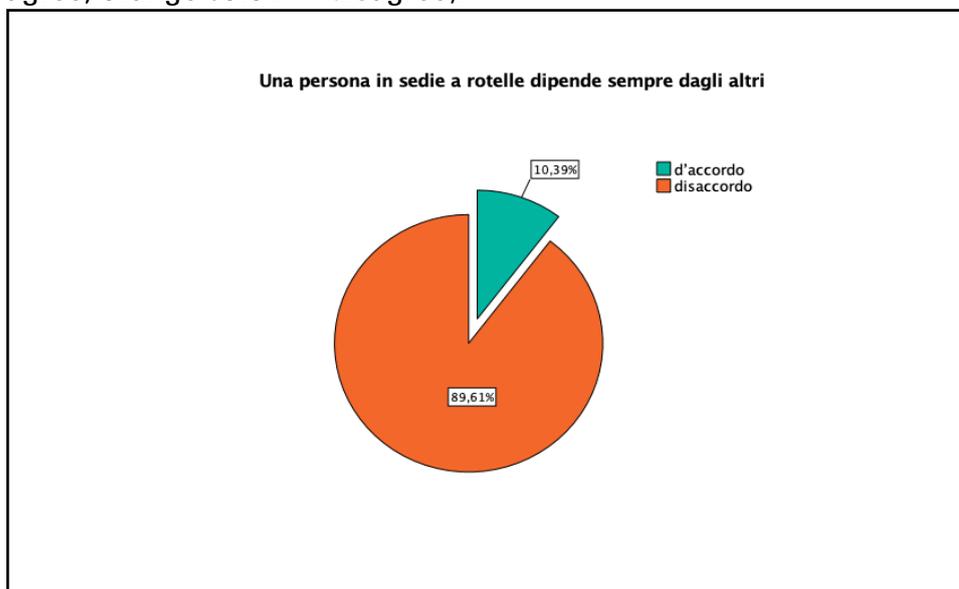
This data could be a push for teachers to start addressing the issue of independent living for people with disabilities, particularly in high school classrooms.

FIG. 4. A person who needs assistance is not free (green colour = agree; orange colour = disagree).



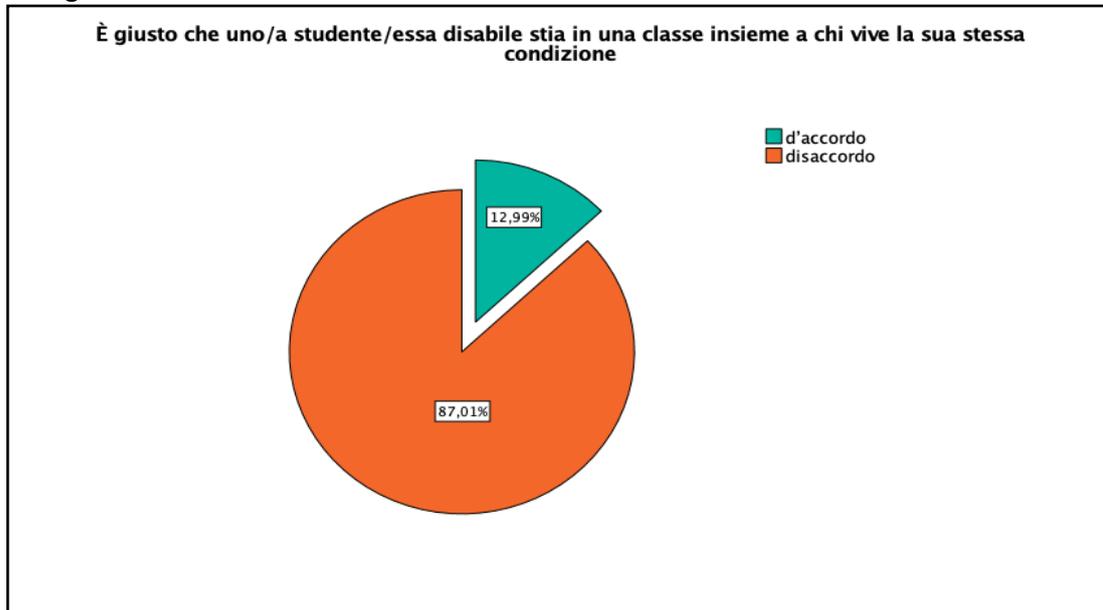
This lack of belief in the possibility to live independently as an adult does not seem to be so clear compared to physical disability, given that only the 10.8% of the sample (and however the percentage is to be monitored) agrees with the statement «A person in a wheelchair always depends on others» (Fig. 5).

FIG. 5. A person in a wheelchair always depends on others (green colour = agree; orange colour = disagree).



Another result on which we want to focus concerns the statement: «It is right for a disabled student to study in a classroom together with those who have the same condition», 13% agreed, and that was unexpected, given the spread of inclusive discussions in schools (Fig. 6).

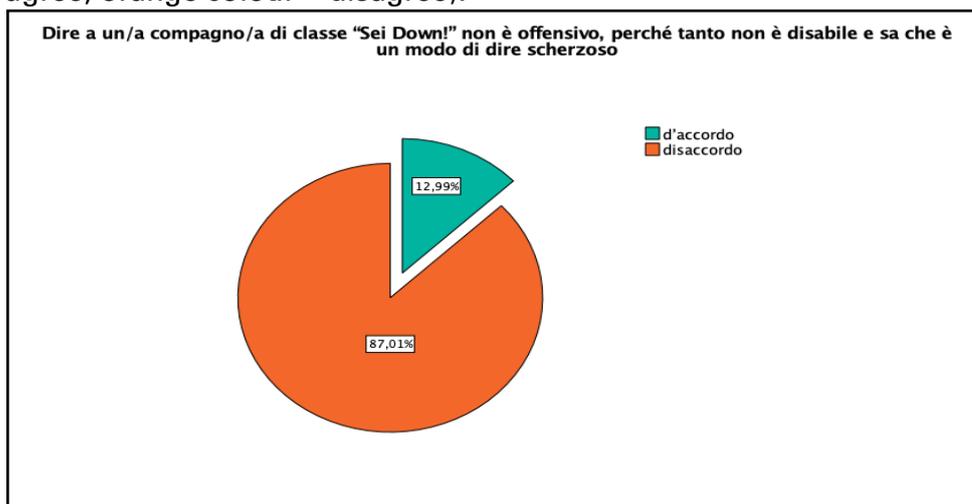
FIG. 6. It is right for a disabled student to study in a classroom together with those who have the same condition (green colour = agree; orange colour = disagree).



This result should be analyzed in order to find out if inclusion at school is a political slogan rather than a real practice.

The same goes for the results regarding the statement: «Telling a classmate 'You have the Down Syndrome' is not offensive, because he/she is not disabled and knows well that it is a joke» (Fig. 7). Also, in this case, 13% agree.

FIG. 7. Telling a classmate 'You have the Down Syndrome' is not offensive, because he/she is not disabled and knows well that it is a joke (green colour = agree; orange colour = disagree).



Conclusions

The results of our survey addressed to the millennials would seem to indicate that younger people do indeed hold a more ethical, fairer and more democratic view of society. They seem not to be surprised or disoriented by the presence of diversity in society and to be at ease with representations and narratives in which otherness, previously excluded, marginalised or stigmatised, takes on a central role instead. We could say that these results are not only expected but desired, and indeed they are. However, one question remains open. Is this a superficial or a profound change? In other words, are the answers given by the girls and boys involved dictated by the introjection of political correctness that has legitimized within certain boundaries (those of the norm) the different bodies by incorporating them into (and thanks to) the mainstream narrative, or do they actually imply a questioning of the construct of normality with all its consequences, first of all the real accepting and not in a formal way the presence of irreducible and therefore disconcerting bodies? In our view, this is a crucial issue for framing and better understanding the phenomenon. A question that, as a working group, we intend to deepen in a second phase of the research centered on focus groups with girls and boys who participated at the survey and others who will be further involved, a phase in which we will try to better understand some problems that we found on the level of language with reference to some items of the Questionnaire.

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Inclusive Science Education with and for Society

Co-Constructing and Sharing STEAM Knowledge through a Culturally Relevant Literacy-Based Early Childhood School-University Partnership

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ABSTRACT: *Through school-university partnerships that situate learning within culturally relevant educational experiences, faculty, preservice teachers, and school-based educators are able to co-construct and share scientific knowledge. This knowledge consists of pedagogical content knowledge and funds of knowledge that include both knowledge and skills developed in cultural context that have evolved historically. In early childhood education, culturally relevant Science, Technology, Engineering, Arts, and Mathematics (STEAM) learning experiences are particularly important for young children's cognitive and social emotional development. This paper describes how intentional co-planning and collaboration to celebrate the US Read across America Day provided over 100 preschool children in eight classrooms with access to STEAM lessons virtually led by university preservice teachers in partnership with educators in the school. These activities engaged children in exploring art, computer science, physical science, engineering, and mathematics within the context of a culturally relevant version of the fairy tale Goldilocks and the Three Bears. Lessons implemented as part of school-university partnerships support Black and Latinx children's development of a sense of belonging in STEAM. Further, these experiences enhance teacher candidates' abilities to engage in culturally responsive STEAM teaching while receiving ongoing guidance and education from university faculty and school-based educators. Teacher education programs within higher education institutions should embrace school-university partnerships as contexts for the development of shared scientific knowledge and discourse since the benefits are twofold. First, children and teachers gain access to, and engage with, innovative STEAM experiences. Second, preservice teachers learn culturally relevant research-based instructional strategies through university coursework situated in authentic learning experiences; thus, their learning as teacher candidates is enhanced through planning, implementation, evaluation, and critical reflection.*

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KEYWORDS: *Culturally Relevant Education, Equitable Science Education, Early Childhood Education, School-University Partnerships, STEAM Education, Preservice Teacher Development.*

Introduction

Increasing access to science, technology, engineering, arts, and mathematics (STEAM) education for Black and Latinx children requires collaborative frameworks across higher education institutions, schools, families, and community organizations. Collaboration that fosters culturally relevant scientific knowledge enriches the educational experiences of young children, teachers, families, and other community partners. Further, school and community-based experiences provide valuable opportunities for preservice teachers to develop teaching practices, especially in light of a growing emphasis on practice-based teacher education (Ball, Forzani, 2009).

1. Supporting Early and Equitable Access to Scientific Knowledge through School-University Partnerships

School-university partnerships that include early childhood teacher education programs and community-based preschools allow for the co-construction and sharing of scientific knowledge. Supporting early and equitable access to culturally relevant STEAM education within a partnership framework reduces some of the social and structural barriers that impede the development of scientific knowledge and sense of belonging among Black and Latinx children. Further, when STEAM education is taught in culturally relevant ways, there are improved outcomes for children from marginalized populations, including an increased interest in pursuing and obtaining scientific careers (Aronson, Laughter, 2016; Newton et al., 2020). In general, culturally relevant education means that teaching and curricula leverage cultural considerations from Black and Latinx children's homes, families, and communities as assets in supporting student learning to alleviate social and structural barriers (Ladson-Billings, 2009; Moll et al., 1992).

Successful partnerships are complex and require extensive time, long-term commitment, and clear communication. The mismatch between university-based and school-based experiences presents challenges because preservice teachers sometimes receive conflicting messages about teaching and learning in these different spaces (Zeichner, 2010). Partnership building involves the establishment of common goals between school and university faculty and staff. Goal development occurs across time and requires ongoing sharing of cultural norms, differing perspectives, and priorities (Tsui et al., 2009). Facilitating

meetings that are accessible and encourage dialogue centered around shared decision-making ensures voices of teachers, faculty, preservice teachers, and families are considered in the building and implementation of partnership activities (Alfred, 2002). Preparing preservice teachers requires various stakeholders (e.g., teacher educators; families and communities; classroom teachers) to work together towards a shared vision for teaching and learning (cf., AMTE, 2017). When partnerships are designed thoughtfully and include shared goals for teacher education, they cultivate a series of intentional experiences that enhance the learning of preservice teachers (Darling-Hammond, 2017).

2. Field Experiences for Preservice Teacher Development

Effective teacher preparation programs approach preservice teacher development through school and community partnerships that prioritize diverse field experiences (Zeichner, 2010). These field experiences foster preservice teachers' knowledge of how professional decision-making is dependent on cultural contexts of the classroom, schools, and communities. Fieldwork should be embedded in content and methods-based courses offered early and often within university program curricula (Bornfreund, 2011). Teacher preparation programs with practice-focused curricula encourage preservice teachers to develop knowledge from action. Through authentic field experiences, preservice teachers are given opportunities to observe, implement, and receive constructive feedback on *high leverage practices* that cannot fully be understood through coursework alone (Ball, Forzani, 2011). In early childhood STEAM education, high leverage practices include being able to identify patterns and trajectories of thinking, and common misconceptions that emerge, when children encounter experiences that foster new ideas about science, technology, engineering, arts, and mathematics (Ball, Forzani, 2011).

Within ongoing field experiences, preservice teachers should be provided with opportunities to educate culturally, ethnically, linguistically, and socioeconomically diverse children. These experiences, co-led by experienced school-based mentors and university instructors, support preservice teachers in identifying their own biases (Whitebook et al., 2009), developing culturally relevant pedagogy, and engaging in reflective practice. This type of professional development is especially critical in preservice teachers' acknowledgement of their own discriminatory profiles of children and families (Long et al., 2014). Acknowledging these profiles is a necessary step in the development of pedagogy that is rooted in equitable educational experiences for young children.

To support teacher candidates' emerging understandings about how children, families, neighborhoods, and communities are central to teaching and learning, field experiences should exist within a range of

contexts, from individual classrooms to community-based organizations (Zeichner, McDonald, 2011). The COVID-19 pandemic reduced considerable numbers of school-university-community partnership activities and required many to move to virtual environments (Hodges et al., 2020). This resulted in the reduction or elimination of field experiences, such as practicums and internships, for many preservice teachers, and highlighted the critical role fieldwork has in the development of preservice teachers (Choate et al., 2021). While an increase of virtual learning led to significant challenges, hybrid spaces can provide an alternative to traditionally disconnected university- and school-based experiences by building bridges between academic and practitioner knowledge, and show promise for bringing together various stakeholders in mutually beneficial ways (Zeichner, 2010).

3. The Evolution of a Culturally Relevant STEAM Partnership

Several common models for hybrid spaces exist that seek to bridge university-based and school-based experiences, including bringing teachers to campus or offering teacher education courses in schools (Zeichner, 2010). Our partnership work takes a different approach to closing the gap between university-based and school-based experiences. Namely, we strive to embed preservice teachers' school and community STEAM experiences in ways that are mutually beneficial for preservice teachers, teacher educators, school partners, and communities. In other words, we aim to develop collaborations that are grounded in models for community-engaged teaching and learning. Community-engaged teaching and learning is defined by the use of institutional (i.e., university) resources to address challenges facing communities (i.e., community-based preschools). More specifically, the resulting partnership must address needs defined by the community partners, integrate goals co-created by university and community partners for student (e.g. preservice teacher; preschooler) learning; utilize ongoing and critical reflection; situate learning within an authentic community setting; and clearly define reciprocal benefits for all partners (Doberneck, Snitgen, 2019).

Here, we describe the evolution of a community-engaged school-university partnership aimed at increasing access to culturally relevant STEAM education for Black and Latinx preschoolers in urban communities near the university. While this partnership also includes significant family and community involvement, we narrowed our focus here to emphasize how we supported preservice teacher development through intentional field-based curricula and co-constructed culminating events that were facilitated both in person and virtually.

3.1. Background

In 2017, Harper began collaborating with the East Tennessee STEM Hub (Hodge, 2019), a partnership of educational, business, scientific, and

research organizations, that aims to promote STEM education regionally. Initial collaborations focused on providing opportunities for preservice teachers enrolled in elementary mathematics methods courses to gain field-based experiences that supported innovative mathematics teaching and learning. Towards that end, Harper designed a major course project for a graduate-level, elementary mathematics methods course taken by preservice teachers seeking initial licensure in elementary/primary teaching, early childhood, and special education. The major course project supported preservice teachers to learn about STEAM resources in children's communities, to design an integrated STEAM lesson leveraging children's community and cultural experiences, and to facilitate that lesson at an informal family STEM event hosted by a local preschool or elementary school (for more details, see Harper et al., 2021a). The school-community-university partnership helped ensure sustainability of family STEM events and facilitated relationship-building between Harper and school partners, including Greene and a principal from a participating preschool. Accordingly, Greene and the principal requested that Harper and the East Tennessee STEM Hub help coordinate an event in 2019 to celebrate *Read Across America* at the preschool.

Read Across America is an annual event that was initiated in 1998 by the National Education Association (NEA). *Read Across America* is the largest annual celebration of reading in the US (Snider, 2021). Historically, this event was in celebration of the life and work of the children's book author Dr. Seuss, however, more recently the focus has shifted and the event has been dedicated to amplifying diverse voices and focusing more on inclusion (e.g., Gonzalez, 2021). *Read Across America* events and programming promote equitable access to literacy for all individuals and prioritize supporting children in the development of a sense of belonging in literacy through culturally relevant books and materials. While there are program activities that occur throughout the year, special events are held annually in early March.

To incorporate sustainable *Read Across America* events into the existing school-community-university partnership beginning in 2019, Harper developed a major course assignment for the undergraduate-level, elementary mathematics methods course taken by preservice teachers seeking initial elementary/primary licensure. For this course assignment in 2019 and 2020, preschool partners selected a focal text for STEAM lessons, prepared a space for the event, and created a rotation schedule so that all preschoolers could participate. Harper and preservice teachers prepared for the event by planning five STEAM integrated lessons that connected to the chosen text. In 2019, the school selected *The Three Little Pigs*; in 2020, they selected *Three Billy Goats Gruff*. Preservice teachers self-selected into five groups, and each group planned a lesson that integrated characters and events from the chosen story with an emphasis on one of the following content areas: science and mathematics; technology and mathematics; engineering and mathematics; art and mathematics; or mathematics. At the events in 2019

and 2020, preservice teachers and East Tennessee STEM Hub partners facilitated the lessons at stations (i.e., five lessons ran concurrently in a single classroom), and small groups of preschoolers rotated through the stations, spending approximately fifteen minutes on each lesson. Following the event, preservice teachers revised their lesson plans based on their facilitation experience and published the lessons (Harper, 2021).

3.3 Redesigning Partnership Activities to Promote Sustainability

In 2021, the COVID-19 pandemic limited the ability to structure the collaboration as done previously in 2019 and 2020. As a result, we developed a new structure to guarantee sustainability of the partnership. Namely, the facilitation of the *Read Across America* STEAM event was adopted by the *Culturally Relevant Robotics: A Family and Teacher (CRRRAFT) Partnership for Computational Thinking in Early Childhood* (Harper et al., 2021b). The CRRRAFT Partnership was established to support computational thinking and a sense of belonging in STEM in early childhood. The project brings together university researchers and teacher educators across both STEM education (Harper) and early childhood education (Caudle, Quinn), administrators from the district and two partner preschools, teachers, an instructional coach (Greene), and Black and Latinx families. Situating the *Read Across America* STEAM events within the work of the CRRRAFT Partnership allowed for restructuring of the collaboration by embedding the involvement of preservice teachers within early childhood teacher preparation and expanding the school partnership to include classroom teachers. The COVID-19 pandemic necessitated these changes, but in ways that promoted the continued success of the partnership endeavour.

FIG. 1. *Children participating in STEAM activities during Read Across America Event*



Through a collaborative effort in 2021, three university faculty, five early childhood preservice teachers, a preschool instructional coach employed by the school district, and 16 preschool teachers and educational

assistants co-constructed and shared culturally relevant STEAM lessons. These lessons were taught to over 100 preschool children located in eight classrooms at a preschool in close proximity to the university. Due to the COVID-19 pandemic, this event was facilitated through virtual and on-site teaching. Preservice teachers, university faculty, and the instructional coach co-taught the lessons virtually while teachers and teaching assistants facilitated the same lessons, at the same time, in the preschool classrooms.

Constructionism informed the development of the lessons. «Constructionism proposes that people learn better when provided with opportunities to design, create, and build projects that are personally and epistemologically meaningful» (Bers, 2008, 16). The lessons focused on computer science, physical science, engineering, and mathematics activities within the context of a culturally relevant version of the fairy tale *Goldilocks and the Three Bears*, written and illustrated by John Kurtz (2004). This version of the fairy tale follows the traditional storyline, but presents Goldilocks as a young Black girl who is called Goldilocks because of the gold beads she wears in her hair. This modification helped make the story more culturally relevant for the preschoolers given that 90% of the student population is Black, and Harper knew from previous interactions that the young girls at the preschool often wore beads in their hair (also see Fig. 1). Accordingly, using this particular version of the fairy tale affirmed preschoolers' racial and cultural backgrounds as assets in the story, which aligns with a key tenet of culturally relevant pedagogy (Ladson-Billings, 2009). The STEAM lessons were integrated and provided opportunities for children to sort bear parts to create different sized bears, use robot mice to navigate through a coding map of the bears' cottage, sort items into soft or hard sensory bins, and design a bed that would be sturdy enough for Goldilocks (Harper et al., 2021c). Each lesson included a focus on four Tennessee Early Learning Developmental Standards (2018a). The lessons positioned children as creators by prioritizing problem-solving, collaboration, and expression (Bers, 2021), which also aligns with the tenet of culturally relevant pedagogy that emphasizes student learning and achievement (Ladson-Billings, 2009). While using the robots and engineering beds, children were asked key questions to encourage design thinking and critical reflection: (1) Why was it important to make a plan first?; (2) What kinds of changes did you have to make? Why?; (3) How did you make those changes?; and (4) What worked for you? In the other two lessons that involved sorting and categorizing, children were encouraged to share their artwork and describe what made their chair «just right» for them or why they made the bears certain sizes. The classroom interactions within these lessons led children to share about both the process and products of their STEAM learning.

The preservice teachers worked with university course instructors to prepare the materials and practice the lessons. Before the lessons were facilitated, the materials were delivered to each classroom and the

teachers spent time reading and discussing the focal book with the preschool children. Preservice teachers and university instructors virtually introduced each lesson and the preschool teachers and educational assistants supported the children in using the materials. The preservice teachers, instructors, instructional coach, teachers, and teaching assistants asked questions and engaged with the children throughout the lessons. The preservice teachers were encouraged to be responsive in ways that extended the children's thinking and supported a sense of belonging in scientific learning.

Discussion

Taking a community-engaged approach to partnership work benefits university preservice teachers, practicing preschool teachers, and preschool children in mutually beneficial ways. Planning lessons that integrate and promote problem-solving, creativity, collaboration, and analytical and computational thinking among young children helps prepare preservice teachers to meet the demands of innovative and integrative STEM teaching. Simultaneously, these experiences alleviate the challenge practicing teachers face when asked to supplement required curriculum and celebrate special events. Further, preservice teachers benefit from implementing their lessons in an authentic, yet supportive, co-teaching environment (Harper et al., 2021a), which simultaneously provides preschool children and their teachers opportunities to make meaningful STEM connections. These mutual benefits also align with the current push in Tennessee for full integration of STEM education in schools as a way to ensure that all children, particularly those from economically disadvantaged backgrounds or minoritized racial/ethnic groups, can take advantage of vast opportunities in STEM fields. Namely, this partnership targeted three priority areas identified by the state's strategic plan (Tennessee Department of Education, 2018b): (1) the integration of state science and mathematics standards with STEM practices; (2) development of teachers' capacity for STEM integration in classrooms; and (3) community and postsecondary partnerships that provide meaningful STEM connections for students.

Research into community-engaged teaching and learning shows the multiple benefits experienced by students (i.e., preservice teachers), community partners (i.e., preschool teachers and students), and the institution (i.e., university); however, numerous challenges also arise in partnership work situated within university courses (Littlepage, Gazley, 2013). We have outlined many of the benefits of this specific partnership above, including preservice teachers' professional growth; the preschool's access to new technologies and resources from the university; and more efficient teacher preparation at the university. We also wish to acknowledge that several challenges arose in sustaining and redesigning this partnership, and we close by providing some insights

into how we addressed those challenges or plan to do so in the future. Anticipating and proactively addressing challenges allows all partners to prioritize sustainability when planning partnership work.

Preservice teachers found managing the necessary commitments (e.g., planning lessons, preparing materials, practicing lessons) difficult, and many expressed anxiety about teaching in the new (i.e., virtual) setting. To ease the first challenge, we sought to integrate the necessary commitments into the course curricula as much as possible, using some class time to prepare materials and practice lessons. We had originally planned for preservice teachers to design and plan the lessons themselves, as we had done in 2019 and 2020; however, the 2021 preservice teachers were earlier in their university coursework and less experienced in school classrooms due to COVID-19 restrictions. Therefore, we decided Harper would plan the lessons instead, and we continued to offer mentorship from experienced university educators during lesson implementation. Preservice teachers were joined by university educators for the virtual lesson facilitation, but we found that the preservice teachers needed little assistance. Instead, the classroom teachers and educational assistants offered most of the necessary support and mentorship.

Involving classroom teachers actively in the facilitation of the lessons also helped address a sustainability challenge faced by the preschool and the university, namely the pedagogical demands of extending culturally relevant, integrated STEAM opportunities beyond the isolated partnership event and securing funding to provide resources for future events. We sought to address these concerns by providing open virtual access to the STEAM lessons developed in our partnership activities, from this year and previous events, in order to allow for ongoing use among teachers, children, and families, not only in our local communities, but within communities around the world. Early childhood teacher educators also have the option to integrate these lessons into their curricula and field experiences. An additional advantage of using lessons designed by Harper in 2021 was that lessons were intentionally planned to use low-cost, readily-available materials (e.g., loose parts; printed materials), with the exception of the robot mouse for the computer science activity.

We found that integrating partnership work into the university teacher preparation curriculum, sharing outcomes of partnership work freely and publicly, and intentionally attending to barriers, such as cost and resources, help maintain the school-university partnership without relying on the involvement of specific individuals. By emphasizing reciprocity and sustainability, the rich opportunities for the co-construction and sharing of scientific knowledge we have described here will endure year after year. Looking forward, we continue to engage in continuous improvement as we seek ways to disseminate this knowledge in ways that are more accessible and culturally relevant for all young children and their families.

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Educational Robotics and Adolescents from Disadvantaged Contexts. A Research Path on Communicative Mediation

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ABSTRACT: *The paper analyses 7 educational robotics workshops carried out by the University of Milano-Bicocca from February to April 2021 at the «Antonia Vita» Popular School in Monza, as part of the Horizon C4S Project. These activities have been conducted with Coderbot with a maximum of 7 students aged between 13 and 16 years old from socio-culturally disadvantaged environments, many of them with learning disorders and difficulties.*

This research fits into the theoretical framework of Educational Robotic Applications (ERA: Catlin, Blamires, 2010), mainly focusing on 5 principles that have been identified as significant within our context: embodiment, interaction, engagement, curriculum, and personalization. Specifically, the aim is to analyse in-depth didactic mediation strategies (Rossi, 2016) in school environments that are characterised by socio-linguistic deprivation (Lumbelli, 1992), especially regarding the direction assumed by one or more expert adults (Bozzi, Zecca, 2021; Lumbelli, 1974). This is a field still little explored with respect to this specific age group, and in particular to those adolescents using the so-called «restricted code» (Bernstein, 1971).

The workshops have been carried out according to 5 phases: 1) engagement, with the aim of gathering students' representations on the concepts of «science» and «robots»; 2) Game of Science (GoS) with a robo-ethological approach (Datteri, Zecca, 2016), to let students express free scientific observations and explanations and investigate interactions between adults, students and robots; 3) algomotricity or body simulation, i.e. the unplugged phase which precedes coding (Lonati et al., 2015); 4) training of 2 student-tutors on some functionalities of the robot and programming problems; 5) peer tutoring, with a Problem-Based Learning (PBL) approach.

All activities have been video-recorded and partially transcribed; the research team is achieving and discussing the first results by leading the analysis in a mixed way, both grounded and using SOFC – Instrument for the Observation of Communicative Functions in the classroom.

KEYWORDS: *Educational Robotics, Mediation, Socio-linguistic deprivation, Popular education, Adolescents.*

Introduction. Teaching and learning... and robots

Starting from the end of the 1960s, Seymour Papert was one of the first to foresee that robots could facilitate learning (see, especially: Papert, 1980). Learning can be defined as the change of an idea or a content, but also as the acquisition of a knowledge, a skill or a competence by assimilation, reworking or accommodation in the potential area of development; the interaction with a more experienced adult through feedback enables the evolution of a given state from one point to another, through observation, imitation, reworking, or reasoning. Therefore, as highlighted by Piaget's constructivism, learning is the result of an active construction of knowledge in interaction with the world, where the construction and manipulation of physical objects play a fundamental role. In this sense, robots can become «objects to reason with» (Beltrametti et al., 2017, 124).

So, educational robots can be mediators through which to think, because they allow bodily and multimodal interaction; they are relational objects that facilitate the process of interiorization (Vygotskij, 1978), stimulating both involvement and motivation and keeping the level of immersion in the experience high. Educational robots are tools of semiotic mediation, i.e. digital artefacts that modify modalities of word and models of knowledges, moving from the classical mediation of the object to the mediation of the subject: indeed, it is the subject who assumes different postures towards the mediator, which, being digital, is infinitely reproducible (Rossi, 2016, 19).

In this process, robots can lead to unconscious insights and pseudo-concepts, starting from knowledges constructed through a situated action reaching up to the symbolic sphere: thus, a sense-motor intelligence is formed up to symbolic consciousness (Hoffmann, Pfeifer, 2018; Stoltz, 2018).

1. Theoretical framework. Educational Robotic Applications (ERA)

As underlined by Hoffmann and Pfeifer, «robots can be beneficial in operationalizing, formalizing and quantifying ideas, concepts and theories that are important for understanding cognition» (2018, 9): they embody – implicitly or explicitly – certain types of abstractions and fit squarely into the embodied and pragmatic (action oriented) turn in cognitive sciences (Engel et al., 2013). Just the embodiment is one of the key issues of the theoretical framework underlying this research, i.e. the Educational Robotic Applications (ERA: Catlin, Blamires, 2010), which presents a set of 10 principles that: 1) explain how robots help learning and the benefits of educational robots to teachers; 2) offer a checklist for those who want to design educational robots and develop activities with them; 3) justify the investment by schools in robotic technology; 4)

suggest underlying cognitive and developmental processes; and finally 5) provide researchers with a set of claims to assess and reason about.

Students learn through intentional and meaningful interactions with educational robots, located in the same space and time: so, this research first considered the Embodiment's principle. Moreover, for our purposes, the following ERA's dimensions were also taken strongly into account:

- Interaction, because students are active learners, who interact with educational robots through a variety of multimodal semiotic systems;
- Engagement, because educational robots foster emotional states and relationships that can promote positive attitudes and learning environments;
- Curriculum, because they can facilitate teaching, effective and long-term learning and assessment also in traditional curriculum areas;
- Personalisation, because they allow to personalise several learning experiences to meet the individual needs of students.

2. The laboratory of Educational Robotics in Monza

As part of the Horizon SwafS C4S Project («Communities for Sciences. Towards promoting and inclusive approach in Science Education»)¹, the research team of the University of Milano-Bicocca carried out 7 educational robotics workshops from February to April 2021 at the «Antonia Vita» Popular School in Monza (Lombardy). This school welcomes adolescents between 13 and 16 years old in conditions of severe discomfort and early school leaving and drop-out, many of them from disadvantaged socio-economic and cultural backgrounds and with learning difficulties (both certified and non-certified), with the aim of achieving the lower secondary school diploma. These activities have been conducted with Coderbot with a maximum of 7 students at a time, both boys and girls, following a protocol consisting of 5 different phases.

All activities have been video-recorded (with the consent of the parents of the minors) and partially transcribed; now the research team is achieving and then discussing the first results by leading the analysis in a mixed way, both grounded and using a tool named SOFC, i.e. Instrument for the Observation of Communicative Functions in the classroom (Zecca, Piastra, 2020).

2.1. Working hypothesis and research questions

The main purpose is to analyse in-depth didactic mediation strategies (Rossi, 2016) in school environments that are characterised by socio-linguistic deprivation (Lumbelli, 1992), especially regarding the peer tutoring and the direction assumed by one or more expert adults during

¹ <http://www.communities-for-sciences.eu>.

the peer tutoring activity (Bozzi, Zecca, 2021; Lumbelli, 1974). Indeed, this is a field still little explored with respect to this specific age group (Pelenc, 2017) and in particular to those adolescents from disadvantaged contexts using the so-called «restricted code» (Bernstein, 1971).

So, the first endogenous factor to the school system we considered is the interaction between peers, from consideration of the starting conditions of students, who have not sufficient expressive, communicative and relational skills and therefore are limited in their possibility of learning. Since

Peer tutoring can generate positive changes and enable participants to develop aptitude for initiative, goal setting and goal achieving, time and emotion management as well as empathy and the ability to establish relations with others. In particular, tutors indicated the improvement of key skills like the ability to establish relations with peers, to work hard at their goals, to take over responsibility and the ability to manage relations, rights and duties when working with others (Schir, Basso, 2018).

The first research question is: Can peer tutoring be a good strategy for enhancing the learning of adolescents from socio-culturally deprived contexts?

Following interaction between peers, the second factor endogenous to school system considered is the relationship between students and teacher, in particular the relationship between tutor students and expert adults. Thus, the following research questions emerged: What are the characteristics of the didactic mediation strategies of the more expert adult? What dialogical patterns are activated between the expert adult and the tutor student?

In order to select the tutor students who could be trained and carry out peer tutoring activities, the research team adopted some criteria, which resulted from a consultation process with both students and school educators. Indeed, we conducted first of all some mini-interviews with students, to find out from their own voices which classmates they thought were the best to explain and support others in learning. Secondly, we consulted the educators themselves, especially on two specific focuses: 1) the students' communicative competence and abilities to manage interactions; and 2) the students' level of engagement and motivation for this type of activity.

2.2. Laboratory design and structures. The five phases

The workshops followed a protocol consisting of 5 distinct phases, designed specifically to accompany the students through the knowledge of Coderbot to the more complex steps of problem posing and solving. The 5 phases were the following.

1. Engagement. This phase started with an initial manipulation of Coderbot to get to know its main components and continued with a focus group which had the aim of gathering students' representations and conceptualizations on some concepts, such as «science» and «robots». A meeting with the inventor of Coderbot,

Roberto Previtera, was also organised, in order to get to know and start learning basic glossary related to educational robotics.

2. Game of Science (GoS). In this phase the research team built an arena in which to move the robot in front of the students, adopting a robo-ethological approach (Datteri, Zecca, 2016) and so encouraging the students to express free scientific observations, explanations and inferences. This was a very important moment to investigate interactions between adults, students and robots.
3. Algomotricity (Lonati et al., 2015). Before looking at functionalities and commands of Coderbot, the team organised an unplugged phase or body simulation, i.e. a series of play activities in which each student, playing the role of the robot, had to act out movements, completely blindfolded, orienting his/her own body in space, based on instructions said aloud by their classmates. Instructions were written on paper by students to form small programming problems, which were constructed using the same semantics and syntax of the Coderbot language, i.e. the Blockly language: in this way, the phase in question took the form of a mini training session, useful to start getting familiar with the programming language.
4. Training. This specific phase, preparatory to peer tutoring activities, was dedicated to the learning by 2 tutor students both of some commands and functionalities of Coderbot, deepening the Blockly language. Just at this stage the tutors began to construct some simple programming problems, some of which would later be proposed to their classmates.
5. Peer tutoring. At this point each of the two tutor students teaches 2/3 tutee students some programming tasks, supporting them towards the construction of a programming problem and its possible resolution. This was another significant moment to study peer interactions and those between students and adults.

2.3. Methodology. Data gathering and analysis tools

The research is still in progress. The research team started by investigating the phase 5 on peer tutoring, and in particular the meeting 6, held on 24 March 2021 (duration: 70 minutes). Interactions were coded through the videos of ATLAS. ti software, using a specific tool, SOFC, i.e. Instrument for the Observation of Communicative Functions in the classroom (Zecca, Piastra, 2020).

The tutor students were asked to teach the functionalities and commands of Coderbot, in particular to get the tutee students to think and code a programming task previously constructed by the tutors themselves

TAB. 1. *Meeting 6. 24 March 2021*

Tutor students	Francesco	Honey
Tutee students	Domenico, Hicham	Ivan, Alex, Morena

TAB. 2. *SOFC teacher / tutor student coding system*

<i>Communicative function</i>	<i>Description</i>	<i>Codex</i>	<i>Type of intervention</i>
G – Management (Gestione)	The teacher makes explicit the tasks useful for understanding the activity, checks the conduct, and sets out the rules. (Introducing the lesson; making explicit the stimulus question, the task or the problematic situation from which the discussion starts; assigning new precise tasks; clarifying, reformulating or reminding of the tasks or objectives; indicating the procedures; soliciting the pupils to maintain, focus or re-establish their attention; regulating and correcting the pupils' conduct with reprimands or reminders to respect the rules of behaviour).	OP	Organisational-procedural
		CC	Conduct control
		REG	Recalling rules and values in interaction
M – Moderation	The teacher organises communication in the group, manages turn-taking, encourages participation in the discussion, invites clarification or continuation.	DT	Giving the floor
		TT	Taking the floor
		IT	Ignoring the turn-taking
		RIC	Summary (without development of reasoning)
		RIF	Request for reformulation
		ICG	Invitation to a generic participation or continuation
		ICS	Invitation to a specific continuation
O – Orientation	The teacher intervenes on the merits, introduces new	CONF	Confutations

	elements into the discourse or asks questions in order to direct the discussion, i.e. to induce the participants to continue the discourse in a certain direction, or to preclude another, or in order to make the point and conclude.	COLL	Connections
		INF	Adding information
		DC	Closed question
		IMB	Rhetorical intervention or prompt
R – Reasoning	The teacher promotes and relaunches reasoning and critical thinking on a given topic. He or she supports pupils in going deep into their reasoning.	SPI	Request for explanation, motivation or argumentation
		RISP	Mirroring and expansion
		RIEP	Taking stock of the situation or summarising
		SC	Explaining the cognitive strategies
		PROB	Problematisation
		RA	Request for agreement
		CONS	Request for consent
V – Assessment (Valutazione)	Assessment function.	FP	Positive feedback
		FN	Negative feedback

The team made use of intrinsic cases (Yin, 2006), with the aim of examine communicative functions and dialogic patterns of micro-situations.

In the light of the students' difficulties mentioned above, the non-verbal behaviour and paraverbal has gained in importance: for this reason, we decided that each teacher and student code can refer to both verbal and paraverbal/non-verbal behaviour.

3. Results and analysis

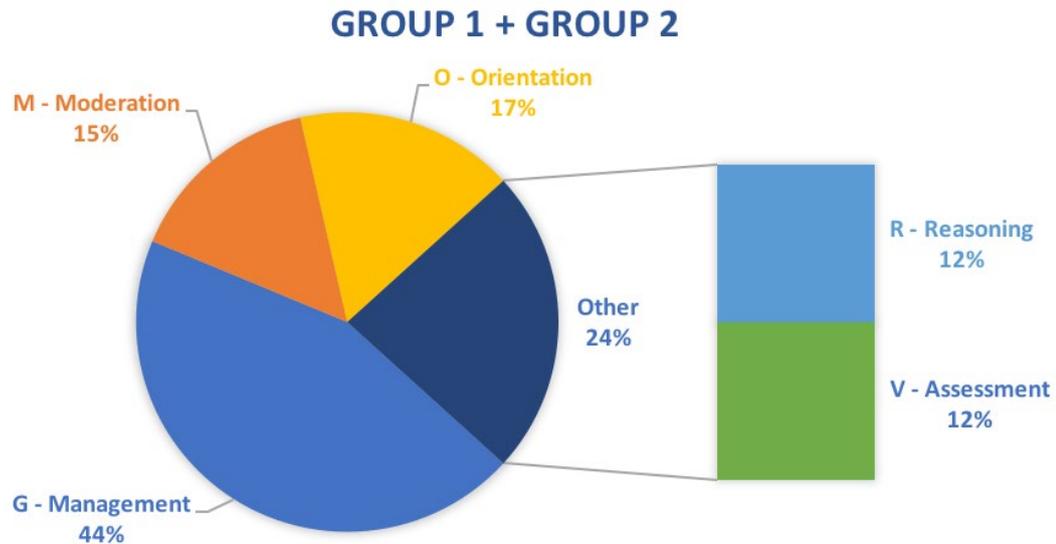
3.1. An overview on tutor student codes

Management (G – Gestione) is by far the most used communicative function by tutors (see Tab. 3 and Fig. 1).

TAB. 3. SOFC tutor student codes

			<i>Gruppo 1 – Francesco</i>		<i>Gruppo 2 – Honey</i>	
<i>G – Management (Gestione)</i>	<i>OP</i>	Organisational-procedural	32%	87,5%	48%	68,9%
	<i>CC</i>	Conduct control		12,5%		28,9%
	<i>REG</i>	Recalling rules and values in interaction		0		2,2%
<i>M – Moderation</i>	<i>DT</i>	Giving the floor	32%	0	11%	10%
	<i>TT</i>	Taking the floor		62,5%		10%
	<i>IT</i>	Ignoring the floor		12,5%		10%
	<i>RIC</i>	Summary (without development of reasoning)		12,5%		10%
	<i>ICG</i>	Invitation to a generic participation or continuation		12,5%		40%
	<i>ICS</i>	Invitation to a specific continuation		0		20%
<i>O – Orientation</i>	<i>CONF</i>	Confutations	0	0	21%	20%
	<i>COLL</i>	Connections		0		35%
	<i>INF</i>	Adding information		0		30%
	<i>DC</i>	Closed question		0		10%
	<i>IMB</i>	Rhetorical intervention or prompt		0		5%
<i>R – Reasoning</i>	<i>SPI</i>	Request for explanation, motivation or argumentation	12%	33,3%	12%	0
	<i>RIEP</i>	Taking stock of the situation or summarising		33,3%		27,3%
	<i>SC</i>	Explaining the cognitive strategies		0		9,1%
	<i>RA</i>	Request for agreement		33,3%		0
	<i>CONS</i>	Request for consent		0		63,6%
<i>V – Assessment (Valutazione)</i>	<i>FP</i>	Positive feedback	24%	66,7%	8%	62,5%
	<i>FN</i>	Negative feedback		33,3%		37,5%

FIG. 1. Which communicative functions are most used by students when they act as tutors?

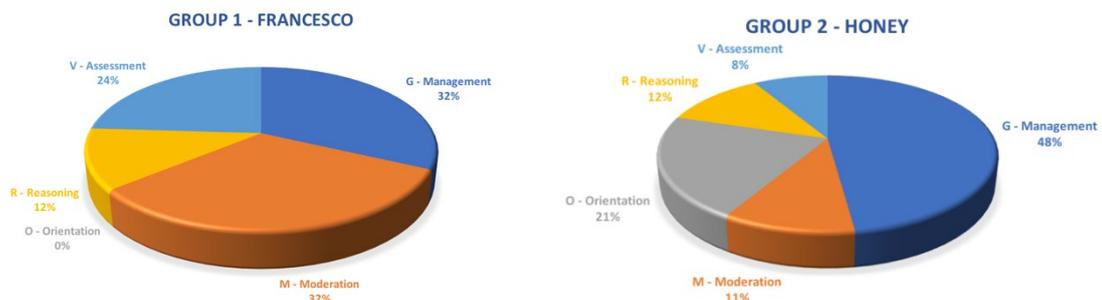


3.2. Codification of tutor student interventions

Reasoning (R) is little used by either, especially with regard to cognitive strategies.

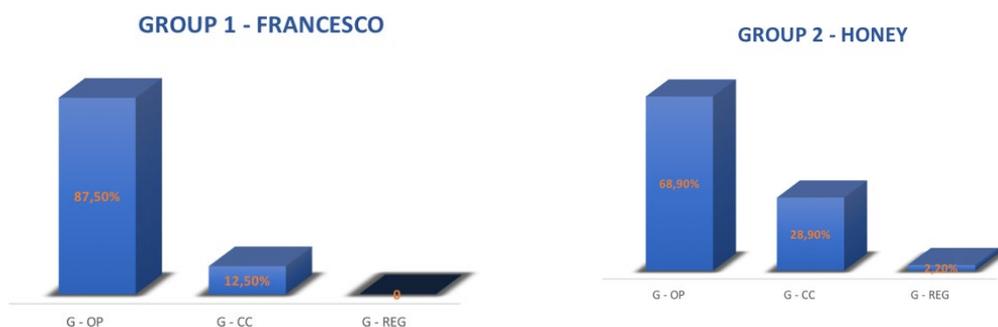
Orientation (O) is not used at all by Francesco, while Honey makes very little use of the assessment function, especially with regard to the negative feedback (see Fig. 2).

FIG. 2. Comparing the two groups – Francesco and Honey



In G – Management, both authors use the OP category much more frequently than the others (Francesco: 87,5%; Honey: 68,9%: see Fig. 3).

In Francesco's tutoring the category REG (Recalling rules and values in interaction) is completely absent; it is also very little present in Honey's tutoring.

FIG. 3. Focus on the Management communicative function

3.3. An overview on tutee student codes

SOFC provides a coding system not only for functions of teachers / tutor students, but also for those of students / tutee students (see Tab. 4).

TAB. 4. SOFC tutee student codes

			GROUP 1 – Francesco		GROUP 2 – Honey	
<i>R – Answers</i>	<i>NIMP</i>	«N'importequisme» answer	14%	0	16%	28,7%
	<i>RSA</i>	Answer without argumentation		0		13,9%
	<i>RCA</i>	Answer with argumentation		0		28,7%
	<i>COMPLI</i>	Completion answer		100%		28,7%
<i>C – Continuation</i>	<i>COLLN</i>	Non-arguemented continuation	72%	0	32%	7,10%
	<i>COMPLC</i>	Completion continuation		20%		14,3%
	<i>COLLA</i>	Arguemented continuation		80%		78,6%

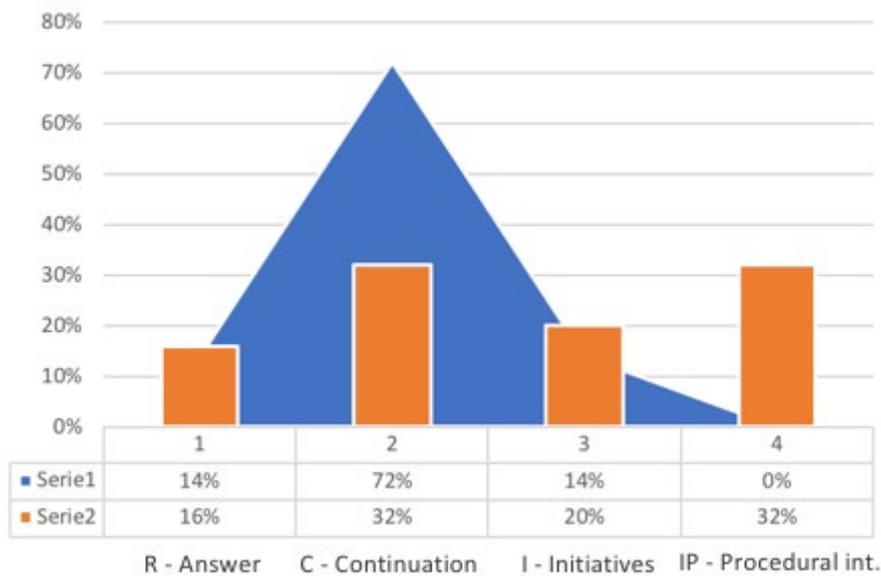
<i>I – Initiatives</i>	<i>CHI</i>	Questions clarification	of 14%	20%
<i>IP – Procedural Intervention</i>	<i>PROC</i>	Procedural intervention	0	32%

Tutee students did not make use of many of dialogical categories provided by the SOFC tool (see Tab. 5). Problematisation is the category least used by both tutor and tutee students.

TAB. 5. *SOFC tutee student codes not used*

<i>Communicative function</i>	<i>Codes</i>	<i>Description</i>
<i>Initiatives</i>	PROB	Problematisation
	PROP	Proposal for a new theme
<i>Conceptual insights</i>	INT	
<i>Mis-knowledge</i>	MISC	
<i>Conventional knowledge</i>	CONV	
<i>Descriptive observation linked to direct experiences</i>	OSS	
<i>Type of argumentation</i>	EP	Personal experience
	LIB	Reference to the textbook
	CLASS	Reference to what the teacher has said or done in class

FIG. 4. Comparing the two groups – Francesco (Series 1) and Honey (Series



3.4. Codification of tutee student interventions

Group 1 students (Francesco's tutees) tend to complete what Francesco said (Continuation: 72%), mostly by arguing (C-COLLA: 80%). Instead, Group 2 students (Honey's tutees) tend not only to argue (C-COLLA: 78,6%), but also to intervene with procedural interventions (IP-PROC: 32%; see Fig. 4).

4. Discussion of preliminary data. Co-occurrences

First of all, we identified the most recurrent dialogical patterns.

For what concerns the Group 1 of Francesco, the most recurrent patterns see G-OP (the most used function: 28% in total) with:

- COLLA (55,6%):

Francesco: «Go to movements, put turn right». Domenico: «Ok!». (Domenico moves his hands on the keyboard.) F.: «Put 2». D.: «I have already put it!». F.: «Turn 90 degrees». D.: «And that's it, the end!»;

- FN (55,6%):

Francesco: «How to make commands, your f* business!». Domenico: «Eh, but he hasn't told us anything, we can't understand a s*!». Hicham: «He speaks in German, you can't understand a s*!» (F. stares at them and laughs).

Regarding the Group 2 of Honey, the most recurrent patterns see always G-OP as the first occurrence (the most used function: 33% in total), with:

- FP (41,9%):

Honey: «Come here a minute!». Ivan: «I arrive!»;

- FN (29%):

Honey: «We have to do a problem». Alex: «Nuuuu».

– PROC (25,8%):

Honey: «We start from here...». Alex: «Wait, first of all... The glove!»;

– CHI (25,8%):

(Honey indicates the end point of the itinerary.) Alex: «Where is the Coderbot?». Honey: «Yes».

During Francesco's tutoring, non-verbal modes and modelling prevail. They stimulate tuning and shared attention (in terms of relationships and contents) on the part of tutee students. Francesco repeatedly asks, with words and/or with a look, for the help of the expert adult: adult mediation is structured and directive (hetero-regulation).

Instead, during Honey's tutoring, verbal interventions prevail. They stimulate tutee students to give feedback, but also to ask for clarification and propose some procedural changes. Honey rarely turns to expert adults and tries to work autonomously: in this case, adult mediation is orientative and transformative (from hetero-regulation to auto-regulation, unlike with Francesco).

Therefore, different tutoring styles seem to activate different patterns in terms of dialogue, involvement and regulation.

Conclusion

We can conclude that in vulnerable educational contexts peer tutoring seems to struggle to work, because structured and directive adult mediation is often – although not always – required (see especially the case of Group 1).

So, in these educational environments, peer tutoring may not be the didactic strategy more efficient. Generally, the tutor student seems:

1. not sufficiently familiar with the object or able to use it;
2. to have no words or adequate modes of communication, verbal or non-verbal.

Consequently, in order to make peer tutoring more efficient also with socio-culturally deprived students, it may be necessary to design a more structured training pathway for student tutors.

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Children and The Livings. Inclusive Experiences in ECEC

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ABSTRACT: *Very young children are deeply interested in living things and ready to establish a relationship with them. This issue is still relatively scarcely addressed in ECEC in comparison to other scientific themes. Research on older children indicates that individuals who have been exposed to experiences with living beings show greater sensitivity and responsibility towards the environment.*

Significant experiences during the early years in exploring the world around us are an important basis for building a positive research attitude. Regular contact and systematic exploration of living things, both outdoors and indoors, are a very special path to promote the habit to observe, explore, identify with and feel responsibility for the natural environment in all young children. Indeed, children's scientific skills, attitudes, understanding and language are promoted through investigations, observations, values and socio-cultural aspects of learning, integrated with children's prior experiences, focused on place-based experiences with natural phenomena.

Contact with living things can generate intense emotions and is a powerful driver for all young children, including children with special needs and disabilities, to develop a research/scientific attitude. Sensorial experiences through sight, smell, touch, taste, hearing, is a way to develop curiosity, inquiry, reflexivity, to formulate hypotheses, discuss with others and solve problems. Outdoor and indoor, in a 'scientific atelier' equipped with technologies that can help children observe and study in greater detail what was first observed in the natural outdoor environment. Living beings can initially be explored spontaneously, then systematically if an experienced adult – a scientific mentor - steers children through specific and open projects, based on careful observation of their potentialities and the opportunities offered by the school context and appropriate technological instruments.

The presentation will discuss and illustrate, through documentation, the sense and value of this approach in ECEC in general and especially when children with disabilities or special needs are included in the group, by illustrating projects and case studies in the Scuola dell'infanzia Bambini Bicocca.

KEYWORDS: *ECEC, Inclusive science education, Sustainability education.*

Introduction

Contact and relationships with living beings can form the basis for developing inclusive learning environments, which involve all children, even those with disabilities, children with special needs and – in general – vulnerable children.

Very young children are deeply interested in living things and ready to establish a relationship with it: from the first year of life children discover the world by exploring it through all senses. At age two and three, thanks to the acquisition of language and stimuli from the context, explorations are transformed into questions. The school's task is to support and develop children's interest, to listen and make explicit their questions and guide their independent search for answers.

Relationships with living things boost cognitive skills such as observation, exploration and analytical skills; it improves non-cognitive skills, such as curiosity, attention, motivation, self-control, cooperation and empathy (Zhou, 2017). It also helps with the development of positive emotions like surprise, enthusiasm, anticipation. All of these aspects are now considered essential for the development of learning and school success.

The opportunity to explore living beings in early childhood can involve all of the senses and it is important to develop a sense of belonging and responsibility towards the environment (Ghafouri, 2012; Cabe Trundle, Saçkes, 2009). Sensorial experiences through sight, smell, touch, taste, hearing, are ways to develop curiosity, inquiry, reflexivity, formulate hypotheses, discuss with others and solve problems.

Contact with living things is a powerful driver for all young children, including children with special needs and disabilities. It can help with the development of a research/scientific attitude (Eshach, Fried, 2005).

The scientific attitude is an attitude to be promoted in everyone at every age. Our focus is on children 3-6. Teachers can do so by starting from the children's knowledge of the world and prior contact with living beings, and through posing questions about the phenomena they observe. Fostering a scientific attitude does not mean teaching methods and techniques used by scientists, but rather getting children accustomed to different ways of applying, in all areas of their lives, scientific methods and procedures to investigate phenomena and solve problems.

Offering children opportunities to encounter science, biology and the natural sciences in particular is by no means the same as transmitting, in an extremely simplified and reduced way, the first rudiments of these disciplines, but rather it means cultivating their 'natural' curiosity, tendency to explore and the 'logic of inquiry' (Dewey, 1974).

Observation and knowledge about living things is also a privileged way to combine the intellectual exercise necessary for the development of scientific attitude with the sense of belonging to the world of life, with awareness of the extraordinary complexity, the strength but also the delicacy of living creatures and natural environments. A well-designed experience with living beings can stimulate a sense of respect and responsibility towards the environment and life, as well as lay the

foundations for the construction of sustainability education, which is based on experiences offered by everyday life, but analyzed and deepened in a precise, joyful but serious way. Research on older children indicates that individuals who have been exposed to experiences with living things are show greater sensitivity and responsibility towards the environment (Faber Taylor et al., 2006).

The discovery of living things through direct experience can promote the knowledge of the other-than-self world, non-stereotypical identification with other forms of life, respect and a greater sense of responsibility towards more fragile beings. Furthermore, our interest towards all living things is linked to our biological history and deeply rooted within us. Thus, the relationship and knowledge of the natural world offer an opportunity for learning more about ourselves, because the questions that arise from the observation of a living being are the same questions about each of our own lives: How was it born? How does it move? Why does it run away? What is happening to it?

1. Our working hypothesis

Providing direct experiences with living beings in natural environments, can be a strategy to capture interest, involve and include children with special educational needs in the experience and in the group.

This is the hypothesis underlying our action research project, which is still in its early phase, based on observations gathered during the scientific-naturalistic activities carried out at the Scuola dell'Infanzia Bambini Bicocca, a nursery school for children 3-6 organized in mixed age groups, which are leading us to define our further work. Since the link between inclusion and scientific experiences exploring the living world is scarcely supported by literature and significant experiences, we think it is worth discussing these theories. Too often, a truly scientific approach to the biological world engaging children is, in fact, reduced to a vague definition of outdoor education. In addition, many studies in the literature (i.e., Stinken-Rösner et al., 2020; Roberts, Bybee, 2014; Blikstein, Guasti, 2020) refer to science education, science literacy, STEM disciplines in general, but do not propose a specific focus on disciplines that relate to knowledge about oneself, other living organisms and the natural world.

Our team has a long standing experience with 'scientific' work with young children. The biological-naturalistic activities are designed to cultivate children's natural curiosity, support and promote research, investigation, observation and a questioning attitude that should characterize all learning. At school, we have both a garden and a scientific atelier, so activities take place connecting the outdoor and indoor experiences. The garden encourages direct contact with natural things and outdoor experiences and activities are a core part of the educational project and are encouraged as much as possible every day. Typically,

activities are offered to small groups of children so that cooperation, collaboration and discussion among peers are promoted.

Based on an initial exploratory study, where teachers and specialists collected 'paper and pencil' observations, photographs and made audio and video recordings during experiences relating to and studying living things, we will suggest and assume some methodological strategies and experiential activities that can be taken into consideration when designing learning environments for biology and natural sciences which are as inclusive as possible.

The path to follow is to exploit the potential of individual children, their specific skills and aptitudes, as well as to transform any critical points into positive ones, so that these in turn become opportunities for meaningful experiences for the whole peer group. In order to enable learning in the group, the potential of individuals must first be recognized and made the most of value. Diversity is seen as a resource and a chance for individual and mutual learning processes, since it can open up new perspectives for action (Florian, Spratt, 2013; Mastropieri, Scruggs, 2014).

In addition, when proposing science topics to children, it is essential to start from their real interests, knowledge and experiences, in order to make the experience relevant and stimulating.

All the suggestions we propose are inclusive because they are meant to be significant for all children (not only for those with special needs) and easy to carry out naturally in daily practice.

2. Case descriptions and work suggestions

2.1. Case 1

Description

The first case we will present is about a child who is currently under the supervision of a psychologist. He is not feeling emotionally well and does not accept the basic rules necessary to coexist in the school community. On more than one occasion he has manifested destructive attitudes towards others, himself and the school.

Despite what has just been said, whenever he has to take care of a living being, he transforms his facial expression and shows a delicacy in his movements: his gaze is empathetic, his body relaxes, even if not completely. A few months ago, a nest was found in the branches of a bush in the school garden. Rules had to be made so that the nest would not be damaged and the birds could remain in the nest without being harmed. Rules such as, 'don't shake the branches, don't climb, don't make too much noise' were a necessity. The boy accepted and applied the rules, a very difficult task for him in other moments of school life. He was very active in making sure that the others respected them as well, reporting 'infractions' to the teachers, 'warning' his classmates and urging them to pay more attention.

Work suggestions

One of the strategies that can be put in place to engage with children with 'emotional distress' is to encourage opportunities for them to take care of other living things. In our case, the strategy was the 'preservation' of the nest through observing precise rules and the implementation of attitudes of respect and care. However, the breeding of small animals, such as worms or silkworms, which requires a longer time period, might be another alternative.

The experience of breeding animals offers not only the opportunity to learn about the characteristics and ways of life of the organism in question, but also brings children to face, more in general and with greater awareness, the fundamental problems of life and relationships between living beings. Breeding animals allows children to identify themselves with living beings other than humans, as well as involving them on an emotional and affective level. Children are active subjects and not only passive spectators.

Taking care of small animals can therefore promote aspects of social education and develop a sense of responsibility towards the animals cared for (Gambini et al., 2010).

The relationship of care, the assumption of responsibility, the development of a possible emotional bond with nature could encourage the emergence of productive and constructive attitudes. It might be temporary and contextualized, at least at the beginning, but with the passage of time the proposals could encourage the development of a more general and broader sense of well-being.

2.2. Case 2

Description

The second case is about a 4-year-old girl with a severe language delay. She does not produce complete sentences but communicates with phrases composed of a single word, which are often repeated several times to reinforce the message. The child also manifests some traits that fell within the autism spectrum.

She is very interested in everything related to the living organisms, especially animals. She likes books with pictures of animals and she shows a certain aptitude for recognition and classification. On more than one occasion, she associated the living creature we had been working on with photos that she saw in books.

She manifests some repetitive behaviours, for example: she remembers where she has found some living beings and looks for them recurrently in the same place. She returns to the same tree where she has found some ants, she carries the same little box she has used one day to capture a small animal and tries to redo this.

Work suggestions

Teachers can exploit her aptitude for recognition positively, promoting activities concerning biodiversity, classification and grouping of living beings, thus guiding her, and all children in general, to acquire awareness of the variety of ways of living that unite and distinguish living things, the different needs they have and the food relationships that characterize them.

By asking some questions (*'How are these animals similar, how are they different? Let's try to group the animals that are most similar'*) the teachers put her skills to good use and, at the same time, guide children's observations by helping them highlight similarities and differences between structures and behaviors that emerged during the history of evolution.

Teachers can also take advantage of the repetitiveness of the actions, focusing on the importance of systematic observations to identify a living being, and above all to know the main aspect of its life. It is important to carry out repeated observations over time: monitoring, noting changes, acknowledging new events may lead to a deeper understanding of a living creature's life. By asking targeted questions, such as *'where did you observe the ants last time? Let's repeat the observations today in the same place. Did you notice something different? Where else can we find ants?'* a child can learn the main aspects of the biology and ecology of a living thing.

2.3. Case 3

Description

In our next case, we present a child who is rather withdrawn, reserved and reflective, who needs time to establish relationships with peers and adults, who has difficulty declaring her state of mind, who does not like physical contact and has a delay in sphincter control.

Since her first year of school, she has shown a strong interest in scientific and naturalistic themes. She loves spending time in the garden chasing butterflies or birds. She carefully observes living things and has a lot of respect for them and, if properly supported and guided, shares her knowledge with others.

Work suggestions

We believe it is important to exploit the child's interest in living things within the group, to help her manifest and convey her knowledge and skills in experiences of exploration and research which are meaningful for her and for her peers, making her feel competent, and involving her as much as possible by assigning her tasks of increasing difficulty and responsibility.

The outdoor environments become the best places to offer experiences of well-being, serenity, curiosity and interest which are the fundamental basis for approaching and learning about living things. The school garden, the city park, the natural area represent important places to develop personal interest in the natural world and to rediscover and

'cultivate' relationships with nature and living organisms (Maynard, Waters, 2007; Gambini, 2016). Moreover these are places, where it is possible to rediscover pleasant sensations and where the children's physical, mental and social health could be increased (Hewes, MacEwan, 2006; Chawla, 2006).

Helping children express what they feel during direct contact with living beings could be a way to foster a higher emotional awareness. These are possible guide-questions: *'Would you like to try to touch this worm? What do you think you will feel when you touch it? What did you feel when you touched it? Do you want to try it again?'*

Role-playing can also be a useful tool to help children with relational difficulties. Developing and proposing games where children have to identify as a character and accept a precise role, such as a queen bee or a worker bee, can teach children the importance of interaction, cooperation and coordination. Later on, children and adults might engage in a discussion and illustrate their experience: *'What does it mean to be a queen bee? And what does it mean to be worker bee? What happens in a hive if there is no queen?'*

2.4. Case 4

Description

At school there is a child who has a severe overall disability (CHARGE syndrome) that, in most cases, manifests with deafness and consequent problems related to balance and global motor skills. The child has a cochlear implant and is acquiring both verbal language and Italian sign language.

He is very attracted to all activities involving the body, and is quite reckless! For example, he loves to imitate the movement of animals.

He is also very attracted to different tools and technologies: from simple magnifying glasses to the stereomicroscope. During the activities carried out in the scientific atelier, we leave these instruments on a table in the atelier, so they are available to the children: he tries them out (even independently) every time he comes to the atelier.

Work suggestions

The study of animals, their biology and ecology and their movement, carried out either through direct contact or/and through the vision of carefully selected visual materials can help children in the development of their motor skills. Mimicking the movement of animals while recreating with their own bodies paths of ants in the wild, for example, can increase their overall body consciousness and help children acquire better motor skills. Experiencing the animal's point of view for a short period of time, in addition to engaging children emotionally, can promote not only the spirit of observation but also enrich and refine their knowledge of living beings. In order to copy an animal, children must first have observed it well, studied it for some time and try to identify with it.

In these activities, the technologies chosen play an important role as amplifiers of the children's experiences. As stated by Gambini (2016, 20)

Technology fascinates children and becomes part of entering habits and lifestyle at an increasingly early age, but it can also prove to be an excellent and useful tool. Instead of widening the gap between virtual/real dualism, technology can be used to support curiosity, desire and the will to get closer to nature.

For example, the projection of images and videos on the floor makes it possible to recreate an engaging, attractive, immersive atmosphere, suitable for encouraging the total involvement of the body that moves together with the images that flow.

Magnifying glasses, digital enlargers and stereomicroscopes are difficult instruments for different reasons (the exploration of the single instrument and the acquisition of the necessary skills to be able to use it optimally are an integral part of the experience) and at the same time useful to 'train' and refine observation. Lenses and technologies in general are 'powerful' tools that enrich and amplify children's possibilities for exploration, research and knowledge.

2.5. Case 5

Description

Finally, we would like to point out that our school has been attended, since the first year it opened, by some children who do not speak Italian as their first language. We have children, who, at least at the beginning of their attendance, did not speak Italian, others who speak mainly Italian, others who mix two or more languages and so on. In each specific case, the verbal production is different and various translingual phenomena take place: code switching and code mixing are just some of the phenomena we witness on a daily basis. We have a great opportunity to work with and organize mixed groups with different language competences to favour imitation, translanguaging and further language explorations.

English is one of the subject areas, in addition to science, around which the school's activities are focused. English is proposed by expert native speakers and broadly supported by teachers through a variety of stimuli: during workshops, daily activities (scientific, artistic, etc.), through books, music and multimedia materials. The school collaborates in an international project on bilingualism and the acquisition of English is monitored.

Work suggestions

Using one's own body for direct and personal experience stimulates curiosity and interest and serves as a basis for a first level of knowledge and learning. The possibility to freely use one's own senses to study a natural object favors the development of a playful, relaxed atmosphere which allows children to learn while having fun.

Rather than using solely verbal language, designing activities that exploit all senses, such as smelling different herbs, touching different textures or observing the transformation of living things, where the use of one's own body becomes the privileged channel for knowledge about living beings and the natural environment, might be a way to involve all children, even those who are experiencing language difficulties. By doing so children who do not feel comfortable speaking Italian, might be more involved in the activity without feeling frustration and they might have the possibility to express themselves through diversified communication channels.

In the meanwhile, adults can support this exploration with words, not only in Italian but also in English, if the learning of a second language is one of the focuses of the school's educational project. By doing so, adults can enrich the children's vocabulary and, hopefully in time, hear the same words used by the children.

Conclusion

All children are interested in living things and interact and identify with them: starting from the children's interest, adults can create better and more inclusive learning environments.

Significant experiences during the early years in exploring the world around us are an important basis for developing a positive research attitude. This research attitude is grounded in hands-on, experiential knowledge and on the relationship with the environment, over an extended period of time that encourages careful observation, the formulation of questions and the search, through reflection and comparison with peers or adults, for possible interpretations and explanations.

For children, even very young ones, opportunities for direct contact with living things favor not only the knowledge of some aspects of their biology and ecology, but also allows them to know and respect the pace of nature, its changes and its transformations, allowing them to learn care actions necessary to maintain a living thing for a certain period of time, be it a plant or an animal. These aspects, which are fundamental for the development of attitudes of respect, protection and responsibility build the foundations for sustainability education.

Exploration and study of living things experienced starting from early childhood can develop biophilia. This term was coined by Wilson, who defines it as the innate tendency to focus attention on different forms of life and to associate with them emotionally (Wilson, 2002). Experiences that stimulate a feeling of biophilia are the basis for the construction of educational practices and sustainable policies (Orr, 2003).

We believe that these experiences can be very important in promoting the inclusion of children with disabilities and special needs because they favor different types of explorations, sensations, emotions,

communication and learning opportunities. The strategies to support children's experiences are many and varied according to the specificities of each child. The skills, strengths as well as the criticalities and weaknesses, transformed in a positive light, are the foundations on which authentic and meaningful experiences with living things must be based for both individuals and the peer group. Encouraging body language and a multi-sensory approach, proposing activities for breeding and caring, stimulating monitoring and repeated observations over time, encouraging the use of outdoor environments, paying close attention to a living being's emotions and behaviors in particular moments and reacting to living things that are being observed, trying to experience the point of view of the animal, encouraging the use of different technological devices and so on are just some of the strategies that can be implemented.

Living beings should be explored spontaneously at first, then systematically with an experienced adult – a scientific mentor - that guides children through specific and open projects. Each educational project has to be designed based on an accurate observation of the children's potentialities and the opportunities offered by the school context. Funds and economic possibilities available to the school and the technological instruments have to be taken into account before designing an educational project.

We believe in the effectiveness of this approach at ECEC in general and especially when children with disabilities or special needs are part of the class group.

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Science Disciplines and School for All, a Challenge

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ABSTRACT: *Scientific disciplines represent a particularly interesting field of study for the education of young people, including those with disabilities. The idea of developing science education for students with disabilities has been around since the 1990s and has gradually taken on the connotations of inclusive education. Inclusive science has also become a topic of academic research on school practices. Around inclusive science there is a shared view among school teachers worldwide that it is a discipline that should be taught. Teachers require support and teamwork in order to best develop inclusive science projects. However, some systematic literature points to some critical issues: in particular, the difficulty of developing inclusive science projects with children and young people with more complex disabilities. This work stems from our participation as a research group within the European Horizon project (2020-2023) Community for science, the aim of which is to disseminate the idea of inclusive science in the educational community and civil society, but also to identify forms, procedures and tools for science to be a learning discipline for all, including young people with more complex disabilities.*

KEYWORDS: inclusive science, disability, education, pedagogical approach

Introduction

This paper stems from our direct involvement in the research group of the European Horizon (2020-2023) Community for Science (C4S) project, which aims to research and promote inclusive science practices with the involvement of young people (age 0-16) belonging to population groups at high risk of exclusion and marginalisation from social and learning processes. Our specific interest concerns disability, a theme that has long involved us as researchers and lecturers at the University of Milano-Bicocca.

In particular, this text focuses on a first literary review of academic work that has addressed the issue of inclusive science for young people with disabilities. The approach we have followed is a genealogical one: to make the history of a discipline in order to understand the themes and issues that led to its emergence. We have tried to understand when and how the topic of inclusive science became a legitimate field of study on a scientific level. Since it is a rather recent, but booming field of study, we

tried to understand: what have been the main epistemological and conceptual evolutions on the research level, what reception has this approach had in the educational community, what are the main results.

Let's reveal the ending right away. The topic of inclusive science garners a lot of interest; it is unanimously considered a strategic issue for the schooling of young people with disabilities, especially in inclusive environments. The results, however, show that academic research and school practice encounter many difficulties in doing inclusive science with young people with complex disabilities. The challenge posed by this field of research is therefore how to achieve a scientific approach that is useful for the development of children and young people with complex disabilities. This is a challenge we want to take up in our field work with children with and without disabilities, with teachers, pedagogues and experts.

Early developments in inclusive science education

Ideas and projects for science education intended for students with disabilities began to develop more fully in the early 1990s, especially in the American context. The world of disability is therefore also recording the completion of the hegemony of scientific knowledge initiated after the Second World War.

An initial literature review (Mastropieri, Scruggs, 1992) identifies some lines of development already underway and developed since the second half of the 1970s:

1. Instructional strategies (text adaptations, mnemonic strategies) prove effective in facilitating knowledge of scientific phenomena);
2. 2 Construction of science curricula oriented according to activities that promote manipulative skills and abilities about developments in the scientific process.

We are still at the stage of declaring intent and developing ideals. Therefore, science education is considered useful in developing knowledge for some types of disabilities.

From the idea of rehabilitation to the idea of inclusion

The need to think about science education for students with disabilities is also linked to the significant increase in this type of student in public schools.

In 1998, the Journal of Science Education for Students with Disabilities (JSESD) was founded in the United States (New York), under the impulse of the Department of Science and Mathematics of the Rochester Institute of Technology and the National Technical Institute for the Deaf.

The idea that scientific disciplines are also crucial for students with disabilities is thus firmly established.

Researchers contend that the subject of science serves as an effective vehicle for students with SEN (i.e. special education needs) to engage in disciplinary understandings as most students, irrespective of achievement level, are able to develop an awareness of, and interest in, themselves and their immediate surroundings and environment through science. Additionally, the practical and social aspects of the discipline, e.g. hands-on activities and working with peers, provide students with opportunities to illustrate ideas through investigations, and develop an understanding of cause and effect (Villanueva et al, 2012, 189)

It is with the new millennium that a concept of «inclusive science» is more fully developed, linked also to new ways of considering disability, as emblematically indicated by the Classification of Functioning and Disabilities (ICF, 2001) and the UN Convention on the Rights of Persons with Disabilities (2006). These new paradigms for considering disability intersect with the inclusive dimension at the school level as well.

The world of education and academic research take on board some of the decisive values of the convention, in particular:

With a view to realizing this right without discrimination and on the basis of equal opportunity, States Parties shall ensure an inclusive education system at all levels and lifelong learning directed to:

- (a) The full development of human potential and sense of dignity and self-worth, and the strengthening of respect for human rights, fundamental freedoms and human diversity;
- (b) The development by persons with disabilities of their personality, talents and creativity, as well as their mental and physical abilities, to their fullest potential;
- (c) Enabling persons with disabilities to participate effectively in a free society.

[...] In realizing this right, [...]:

- (a) Persons with disabilities are not excluded from the general education system on the basis of disability, and that children with disabilities are not excluded from free and compulsory primary education, or from secondary education, on the basis of disability;
- (b) Persons with disabilities can access an inclusive, quality and free primary education and secondary education on an equal basis with others in the communities in which they live;
- (c) Reasonable accommodation of the individual's requirements is provided;
- (d) Persons with disabilities receive the support required, within the general education system, to facilitate their effective education;
- (e) Effective individualized support measures are provided in environments that maximize academic and social development,

consistent with the goal of full inclusion. (UN Convention on the Rights of Persons with Disabilities, article 24)

The literature itself brings up the idea of inclusive science in ordinary classrooms. Increasingly, the question of inclusive science for students with disabilities in university is also being raised.

The question of different modes of learning also arises in science: science and social studies are identified as effective tools that enable students with disabilities to access learning and training useful for success in school and in daily life (Scruggs et al., 2008). Some strategies for students with learning disabilities prove particularly effective: supports for verbal learning of declarative information; processing information in texts; activity-based instruction/experiential learning (Brigham et al., 2011).

The concept of science education is becoming more and more established within the ordinary school curriculum, as also stated in the UN Convention on the Rights of Persons with Disabilities (art. 24 and 30). The literature brings up the idea of inclusive science in mainstream classrooms (Mutck-Jones et al., 2012) also in terms of equal opportunity (Bargerhuff et al., 2010) and social justice.

Without denying the difficulties, the theme of inclusive science highlights particularly significant dimensions of learning for all students with and without disabilities

In all cases, certified teachers implemented the science instruction over extended time periods to their students with and without disabilities. Additionally, the science curricula were adapted as necessary to promote the successful participation and learning of students with disabilities. Activities-based curriculum materials were used solely, in combination, or in comparison with textbook-based curriculum materials. Findings across all classroom implementation indicated that students with special needs successfully learned more when taught with the adapted activities-based science curriculum materials. Additionally, students with special needs overwhelmingly reported enjoying the activities-oriented instruction more than textbook instruction. Teachers noted that during activities-oriented instruction, students appeared more motivated to learn and to participate in class, and demonstrated more on-task behaviors. However, teachers also reported that activities-oriented instruction involved considerably more teacher preparation time, behavior management skills, and organizational skills than traditional textbook instruction. Also found evidence in support of an activity-oriented science curriculum but noted that the presence of a caring teaching construct (respecting students' talents and strengths) enhanced the effectiveness of the approach. (Mc Ginnis, 2013, 47).

The effectiveness of this inclusion option, however, depends largely on the teachers' ability to practice inclusion. This issue involves the question of teacher training and the need for them to be supported

throughout the school system. This is in fact one of the major themes that runs through all of the identified literature.

Indeed, collaboration between science teachers and special education teachers prove effective in building a supportive instructional context and adapting lesson plans to meet science learning goals for all students in an inclusive classroom. However, this does not often prove to be an opportunity that produces greater teacher knowledge about the link between science content and learning disabilities (Mutck-Jones et al., 2012).

Issues related to specific functioning such as specific learning disabilities and autism are also addressed.

Argumentation-based approaches, such as the Science Writing Heuristic (SWH), have shown that students engaged in appropriating the language, culture, practice, and dispositions of science have generally improved their critical thinking and knowledge (Villanueva, Hand, 2011). There is a need to better understand how this construct can be applied to disabilities.

How to do scientific inclusion? Between methods and criticalities

The notion of inclusive science education suggests that all students—regardless of achievement or ability—should engage in opportunities to understand the practice and discourse of science. Current teaching practices risk not effectively supporting all students, particularly those with more complex disabilities.

The best results are obtained for high functioning disabilities. Using a single-subject reversal design, for students with autism spectrum disorder, results say that there is an improvement in the ability to comprehend scientific text (Carnahan, Williamson, 2013). A comprehensive review of the literature on teaching science to students with intellectual disabilities and/or autism spectrum disorder reports interesting findings but raises the question of further research to explore the effectiveness of interventions capable of building science skills in students with more complex disabilities (Apanasionok et al., 2019).

Of particular interest, in a logic of inclusive science education, seems to be the possibility of focusing on the affective dimension in reference to feeling-based constructs such as attitudes, values, beliefs, opinions, emotions, interests, motivation, and a degree of acceptance or rejection. This approach may influence students' interest in science topics and their motivation to persist in learning science concepts (Abels, 2015).

Questions of method pose even more decisive questions: are science teachers positively inclined toward inclusive education? (Spektor-Levy, Yifrach, 2017). Questions of method and approach for inclusive science are posed to the underlying questions. The literature itself is divided between: a constructivist perspective, with teaching approaches that allow students to build their understanding of scientific ideas and through

hands-on experiences of scientific inquiry (inquiry-based learning) (Abels, 2014) and a behavioral model that focuses primarily on teaching more knowledge-based learning programs aimed at achieving mastery of predetermined learning goals, as is also evident in some systematic reviews (Apanasionok et al., 2019).

Inclusive science education: an established field in search of practices

In any case, the topic of inclusive science in the mid-2010s is scientifically established as also evidenced by the release of several volumes (Mackic, Abels 2016; Koomen, Khan et al., 2018).

However, the practice of inclusive education is one of the greatest challenges for science teachers as well. Anyway, there is a certain lack of research in science education on how to foster inclusive education of students with different learning preconditions. The possibility of building inclusion and increasing skill sets for students with disabilities struggles to find clear and defined methodologies: some research points to the need to start with a reflection on what is happening in the classroom to identify effective strategies for students with and without disabilities. Some activities using purpose-built robots with the goals of supporting/integrating usual play and social activities seem to benefit all children, including those with severe disabilities (Pennazio, 2015)

Of particular interest, in a logic of inclusive science education, seems the possibility of focusing on the affective dimension in reference to constructs based on feelings such as attitudes, values, beliefs, opinions, emotions, interests, motivation and a degree of acceptance or rejection. This approach may influence students' interest in science topics and the heterogeneity of disability conditions and the complexity of specific forms of learning makes the results less clear overall. Certainly, the idea that an approach in ordinary classrooms is needed is now well established around the world, as some case studies point out (Koomen, 2016; Asghar, Sladeczek, 2017; Reynaga-Peña, Sandoval-Ríos, 2018).

This approach continually refers, throughout the literature, to the competencies of science teachers, collaboration with teachers specialized in special needs education and more generally of an inclusive school context (Kaha, Pigman, 2017; Ricci, Persiani, 2019; Tang 2021). In the face of heterogeneous results the not always systematized, in the face of the risk that more complex situations of disability stay out of the practices of science, the idea of building a framework of inclusive science more generally arises that is able to more fully intersect the concepts of inclusive science with a more general inclusive pedagogical perspective as signaled by one of the most recent systematic reviews on the subject (Brauns, Abels, 2020).

Conclusion

Students with special needs tend to show significantly lower achievement in science than their peers. Despite this bleak picture, much is known on how to significantly improve science achievement for students with special needs (Villanueva et al., 2012). Furthermore, the analysis of the literature, of which we have proposed a review that is certainly not exhaustive, highlights the lack of scientific models and evidence related to more complex disability situations. The work we intend to carry out as part of the Horizon (2020-2023) Community for sciences (C4S) project therefore encourages us to try to field test experiences of science education that are meaningful in terms of learning for pupils with severe disabilities.

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**Reading and Reading Aloud
as a Means of Promoting Equity
Within Education Processes**

Reading Narrative Fiction Shapes Social Cognition

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ABSTRACT: *The importance of reading for the socio-cognitive development of human beings has long been discussed and it has been supported by theory and research in the humanities, social science and increasingly cognitive science. This scholarly literature has mostly concerned itself with childhood and adolescence, and at times with at-risk populations, such as inmates and people suffering from mental health issues. In recent years, however, there has been a renewed interest in the effects of reading in adulthood, with a specific emphasis on reading of narrative fiction in normo-typical adults. Here I summarize the main findings emerging from this literature, focusing in particular on the research program I have been pursuing over the last 10 years on the impact that different forms of fiction (literary and genre, or popular) have on social cognition processes and, in turn, to the development of civic identity, ideology, and life in a democratic society.*

KEYWORDS: *Narrative fiction, social cognition, theory of mind.*

In the beginning were stories

The development of language by homo sapiens has enabled an exponential growth in the ability to systematise knowledge, accumulate it and pass it on from one generation to the next, thus offering great advantages to our species. Language, however, should not be regarded as a simple code that we use for these purposes. More than a tool, it is a constitutive and integral part of who we are. We would not be able to think certain thoughts and feel certain emotions if they were not matched by words.

Research in psychology and the cognitive sciences has shown that the development and use of language depends on many affective and cognitive processes – and in turn contributes to their formation and refinement. Anthropological and cognitive science theorizing also suggest that language, and especially stories, have made a fundamental contribution to the development of our social organisation, helping us to create cohesion in the small groups in which our ancestors lived a million years ago. This had important repercussions on our ability to collaborate, probably contributing significantly to our hyper-sociability (Tomasello, 2014). One of the key factors in the development of this hyper-sociability

is the discovery and especially the control of fire by our ancestors, the latter occurring around 300,000 years ago. Being able to light a fire led to major changes; for example, it allowed us to cook the meat of captured animals, with important effects on our morphology, particularly that of our brains, due to improvements in the efficiency of protein metabolism (Wrangham, 2009). But here we are mainly interested in the fact that after sunset, gathered around the fire on a dark planet (and perhaps inspired by a starry sky), our ancestors began to tell stories to each other. This is the opinion of anthropologist Polly Wiessner, who based on her observations of the life of the African Ju/'hoan (!Kung) tribe, reflects on what the development and subsequent refinement of the capacity for storytelling meant for our evolutionary history:

Night activities steer away from tensions of the day to singing, dancing, religious ceremonies, and enthralling stories, often about known people. Such stories describe the workings of entire institutions in a small-scale society with little formal teaching. Night talk plays an important role in evoking higher orders of theory of mind via the imagination, conveying attributes of people in broad networks (virtual communities), and transmitting the 'big picture' of cultural institutions that generate regularity of behavior, cooperation, and trust at the regional level. (Wiessner, 2014)

Stories and social cognition

The concept of Theory of Mind, mentioned by Wiessner, is commonly defined in psychological sciences as the ability to infer others' mental processes; their emotions, beliefs and aspirations, their thoughts, doubts, desires. In other words, to understand the mind of others. This capacity, although not entirely absent in other primates and perhaps in other mammals, certainly finds its most advanced form in homo sapiens. It is this capacity that makes our hyper-sociality possible. At the same time, the pressure to maintain and develop this hyper-sociality, because of the benefits it produced for us, led us to further refine our Theory of Mind skills.

A long tradition of research in philosophy of mind and cognitive science has highlighted the link between the development of Theory of Mind and the development of language (Perconti, 2003), but Wiessner puts forward a more precise hypothesis about the role of narrative, of stories. Is she right? Does reading stories teach us to read the minds of others? Research suggests that this may indeed be the case.

There exists considerable evidence for the link between reading narrative and socioemotional competence (for a review, see Batini et al., 2021), and particularly Theory of Mind in adults (for a review, see Dodell-Feder, Tamir, 2018) as well as children (Batini, Bertolucci, 2020). The first accounts of this relationship built on the insight that when reading fiction

we experience thoughts and emotions congruent with those of the characters (Oatley, 1999), researchers at the University of York in Canada have demonstrated a relationship between the degree of exposure to fiction and the Theory of Mind skills. In this research, exposure to fiction was measured using an adapted version of the Author Recognition Test, which consists of a list of names of fiction and non-fiction authors. Participants are presented with this list and asked to select the name they recognise as being that of authors. This allows researchers to calculate a fiction-exposure score and non-fiction exposure score, for each participant. Next, participants performed a series of tests, including the Reading the Mind in the Eyes test (RMET; Baron-Cohen et al., 2001). The RMET, one of the most widely used Theory of Mind measures, assesses accuracy in inferring others' mental states by looking exclusively at the eye region. Results showed that while exposure to non-fiction did not affect RMET scores, exposure to fiction did so, positively (Mar et al., 2006). These findings are interpreted as evidence that fiction is a simulation of social life: readers are transported into the fictional world, identify with the characters, feel their emotions and imagine their thoughts and desires. In this way, they hone their mind-reading skills (Oatley, 1999). Recent theoretical developments and research have qualified this conclusion and proposed a different account of the effect of fiction on mind reading. This account is based on the differentiation between popular and literary fiction.

1. Popular vs. literary fiction

Popular and literary fiction are differentiated on the basis of various criteria, including the amount of effort required of the reader to construct and infer meaning, the type of response they elicit in the reader, as well as style and density (Barthes, 1974; Bruner, 1986). An important feature seems to be foregrounding (van Peer, 1986). Foregrounding refers to stylistic features at the phonetic, grammatical and semantic level, which create various kinds of complexity and, by defamiliarising the reader, force him/her to construct meaning, instead of simply receiving it from the author. From this scientific and humanistic literature, the idea emerges that compared to popular fiction, literary fiction erodes the schematic knowledge that the reader normally uses to make sense of interactions in everyday life. These deviations from the usual schemata that we find most markedly in literary fiction is implemented, among other ways, through complex and unpredictable characters that force the reader into an effort of interpretation and attribution. Both popular and literary fiction require interpretation, inferential, and attributional processes (Graesser et al., 1994), but literary characters «make(s) the reader infer implied mental states in addition to (and sometimes instead of) spelling some out» (Zunshine, 2019, 5). These elements form the

background against which we proposed that popular and literary fiction impact Theory of Mind differently.

2. Literary Fiction and Theory of Mind

We presented the first evidence of the impact of these two types of fiction in 2013. In a series of experiments, participants were randomly assigned to read one of several excerpts from novels or short stories previously classified as literary or popular fiction. They then completed the same Theory of Mind measure described above, the RMET test. The results showed that those who read literary fiction scored higher on the RMET test than those who read popular fiction (or non-fiction). The same result was obtained in other laboratories and using other Theory of Mind measures (Kidd, Castano, 2013; see also Kidd, Castano, 2019; Pino, Mazza, 2016; for a meta-analysis, see Dodell-Feder and Tamir, 2018).

The differential impact of exposure to literary versus popular fiction is further supported by correlational research. In this type of research, a score reflecting the degree of exposure to fiction is assigned to each participant, based on their responses to the Author Recognition Test. In more recent research, instead of a single score, two scores are calculated: one for exposure to popular fiction and one for exposure to literary fiction (Kidd, Castano, 2017). Confirming the findings from the experimental methodology, these studies revealed that while exposure to popular fiction is not associated with performance on Theory of Mind tasks, exposure to literary fiction is: more literary fiction, better Theory of Mind.

In contrast to experimental research, which by randomly assigning participants to different reading conditions excludes that the results are due to individual antecedent differences, in correlational studies it is possible that the tendency to read literary vs. popular fiction is associated with other variables, the influence of which must be controlled statistically, rather than methodologically. Obvious candidates are the level of education and the type of studies carried out. However, research seems to exclude that the observed relationship is due to such factors, as well as to gender, age or other individual differences. These findings have recently been replicated and extended, showing that individuals with high exposure to literary fiction are more likely to recognise the complexity of human behaviour and social dynamics, while those who prefer genre novels demonstrate the opposite tendency (Castano, colleagues, 2020; see also Castano et al., 2021).

3. Popular fiction and Theory of Society

The research findings reviewed above support the idea of a link between stories and social cognition, and in particular between fiction and Theory of Mind. But this is only one of the aspects mentioned by Wiessner in the

above quote. Do stories also do other things? Do they also serve to «convey the attributes of people within large networks (virtual communities) as well as the 'big picture' of cultural institutions...»? To my knowledge these hypotheses have not yet been empirically. Some reflections can however be made, particularly with regard to the distinction between literary and popular fiction. The regularity of behaviour Wiessner refers to can be conceived in terms of the Theory of Society. This concept has been proposed to stay in a dialogical relation with that of Theory of Mind, and refers to the ability to understand others in terms of (culturally transmitted) information about group memberships; for example which groups and what stereotypes are associated with them. Elsewhere I have proposed that while literary fiction, because of its characteristics described above, trains Theory of Mind, popular fiction trains Theory of Society (Castano et al, 2020). While Theory of Mind is a highly individualising process that focuses on idiosyncrasies and subjectivity, Theory of Society focuses on similarities, on what unites us; it is a social glue. Our theories of society enable us to imagine, constitute and maintain social groups, in particular through the process of social categorisation and the development of social identities, and through the identification and enactment of roles. These theories are most clearly supported by popular fiction, which, with its classic plots and stereotypical characters, confirms expectations and patterns, norms and beliefs, continually re-presenting and thus reifying the world we know.

4. Fiction and society

From the point of view of psychosocial processes and their socio-political consequences, therefore, a hierarchy of narratives in which literary narratives have greater value than popular narratives is meaningless. For a human society to have enough cohesion to function but also to continue to evolve, the centripetal force, the bonding action of popular fiction is just as important as the disruptive, centrifugal action of literary fiction. While popular fiction is largely supported by the commercial sector (precisely because being popular generates profits), literary fiction, at least as defined in the historical moment spanning roughly the twentieth century and continuing into the present day, seems to be in need of support. This asymmetry may be partly due to the fact that we humans spontaneously tend to simplify and categorise social reality, favouring theories of society over Theory of Mind as an interpretative and knowledge-acquiring tool in our daily lives (Brewer, 1988). This tendency corresponds to the fact that we are not only social animals, but above all tribal animals. The recent history of humanity, at least in Western civilisations from the Renaissance onwards, is one of ever greater enlargement of what is considered one's own tribe (Rifkin, 2009) – if not an actual distancing from our own tribal reflexes. With important exceptions, the history of the last centuries of Western civilisations is a

history of individualisation: the individual, his subjectivity and her rights become more central and are recognised as increasingly important. The avant-garde in the arts is fundamentally this: breaking away from collectively shared patterns, which has primarily meant expanding individual freedom and subjective choice – although important exceptions to this overall trend exist, due to the particularly socio-political climate from which they emerged. Typically, this tendency is most strongly expressed by the intellectual elite, and it is perhaps for this reason that this elite tends to value more positively (and reward, quite literally) a type of fiction that reflects such values, and which consequently becomes «literary» fiction. Public sector support for such fiction, in this sense, is indeed elitist. But instead of being fought against as such, it should be defended and celebrated because it is functional in maintaining the necessary balance between the centrifugal and centripetal forces in our society.

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Reading in Biographies: Reinventing Life through Literature

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ABSTRACT: *The aim of this paper is to investigate from a sociological and cultural point of view the role of reading practices in a range of biographical processes involving childhood and adolescence. I will analyze selected parts from a body of narrative interviews I realized in my Postdoctoral research «Leggere, scrivere, orientarsi: percorsi letterari nel territorio calabrese» (Dec. 2019 – in progress), in which readers of different ages talk about their relations with literature and reading practices as means of orientation, empowerment and emancipation through life. On the one hand, the main focus of the analysis will be on their individual capability to find or invent a way to become a reader during childhood and adolescence. On the other hand, I will develop the analysis of this narrative material in order to evaluate the influence of educational effects, cultural exchanges and social relations in the making of a reader's life-course. In short, my main focus will be on how reading came into readers' lives as a biographical conquest involving the sense of selfness/otherness and the sense of reality/possibility, i.e. as a lifelong resource in the construction of individual biographies.*

KEYWORDS: *Reading, Biographies, Everyday Practices, Subjectivation, Narrative Thinking.*

There are no days of my childhood which I lived so fully perhaps as those I thought I had left behind without living them, those I spent with a favourite book.

Marcel Proust

Introduction

First, I'd like to thank the organizers of the conference, along with the chairs and the colleagues involved in this panel for their passionate engagement in this field of studies. Today's session (*Reading and Reading Aloud as Means of Promoting Equity within Education Processes*) could be an important milestone for a future interdisciplinary study of reading practices in the human world. If education processes is

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the pivotal subject of today panel about reading and reading aloud, nevertheless we are building a plural field of discussion involving literary studies, philosophy, sociology, anthropology, history, psychology, cognitive sciences, communication and cultural studies... My feeling is that we should keep this form of engagement and cooperate to integrate our individual researches, and possibly work together for the foundation of a proper research axis like «reading studies», triggering theoretical and empirical connections between different approaches around our subject. This means that all disciplines involved offer some useful perspectives on the question of 'what does reading mean?', but there's an evident lack of times in which we can refer to 'reading' as a field of study, discussing our specific orientations and translating our research questions from their specific dialects to a *koinè* language. In this way, we should share our different styles and backgrounds, in order to build a common toolbox in which tomorrow's scholars would find a dynamic body of knowledge as a useful resource to pose new questions about the meaning of reading practices for the future life of humankind. That's at least my hope, and my wishful projection.

1. Research framework

The aim of my contribution is to show for the first time some research findings concerning my present Post-doc research titled 'Reading, Writing, Orientating: Literary Paths in the Calabrian Territory (coordinator: Prof. Paolo Jedlowski). From May to October 2020, I completed 20 qualitative semi-structured interviews about the biographies of readers living in Calabria. The sample concerns adult profiles (25-65 years old) commonly recognized as 'strong readers' (a single person who has read at least 12 books in the course of the year): 12 women and 8 men coming from county seats (11) and small towns (9). The setting of the interviews has been regulated but informal, meaning that the autobiographical tale was stimulated by open questions and constructed within a 40-50 minutes conversation. I posed a set of open questions concerning their relationship with literature and how their life-course was influenced by the practice of reading. After the completion of the interviews, I developed a general scheme in order to analyse and interpret the stories in their biographical meaning:

1. The reader's attitude: ways of reading, tastes and preferences, styles, consumption.
2. Spaces and times of reading: home, city, territory, infrastructures, everyday life.
3. Reading and socialization: family, school, work, relations, projects, participation.
4. Reading as an orientation practice: cultures, life-course, transitions, memories, aspirations, horizons.

My research hypothesis is that the relation between reading practices and readers' biographies could be interpreted through the model of a multiple map: an orientation tool allowing the reader to design a reflexive itinerary through his/her life in terms of plot, memories, aspirations and motivations (existential map). Moreover, the story of one's life as a reader generates a sort of relational map in which reading and interacting with other people, sharing personal interpretations and feelings about books, highlights the sense of an intersubjective plot and a social construction within the biographic path. And finally, this kind of cartographic model could be also useful in a literal sense, referring to the knowledge of local literature as a means of orientation in the geographical, social and cultural environment in which personal life-courses are constructed and deployed (territorial map). In any case, investigating the role of reading for twenty individual biographies in Calabria has reinforced in the spirit of my analysis the idea that this activity offers a wide set of creative resources for the self in terms of relations, orientation, emancipation and empowerment.

2. Becoming a reader

My purpose is to present a selected part of the results of this fieldwork. I will discuss the idea of reading literature as a subjectivation practice, i.e. as a set of multiple techniques that people use to shape their lives in terms of imagination, inspiration and orientation. The first remark can be encapsulated in a simple and apparently naïve question: how did reading literature come into a reader's life? I have selected three quotations in which adult readers reflect on the moment in which their life embraced literature, generally between childhood and adolescence. The other parameter used to pick the relevant parts has been the presence of family and school as agents of instigation and/or repression in feeding consumption of narrative fiction for the youngsters. Therefore, the following biographical tales represent in a controversial way the discovery of reading pleasure:

I remember that I read them voraciously. I also remember that, after this event, I wrote and thought in a different way: I experienced these first readings like another Epiphany. [...] After a while, when I was about 10 years old, this wore off: school always took me much time. [...] I can see the same issue now, in my own experience of teaching: with the best of intentions, what can you read during a school year? (50yo F)

In the first interview (50yo F), we can notice a sense of initiation into a new world, something like crossing a threshold, in the way this woman remembers her first experience in reading fiction at 8-9 years old: «I remember that, after this event, I wrote and thought differently». In this case, family has a relevant role of instigator and feeder: the discovery of love for reading books was triggered by a gift received in the magical

atmosphere perceived by the child in the feast day of Epiphany. Then the story goes on and we find that school represented a competitor that stole time from reading or, in the best case, as the institutional place where only a limited range of anthological passages from the textbook was actually read, due to lack of time. In this sense, we should keep in mind the final remark in which she compares her controversial experience with reading as a schoolchild to her present role of literature teacher in a local high school: «with the best of intentions, what can you read during a school year?».

In the second example, the reader (40yo M) comes from a family context in which there were fewer chances to find books at home. In this case the role of instigator is conferred to middle school, in particular to the school library in which he found the first book of his life:

Let's say that I don't come from a family of readers. [...] The first book I read [...] was Dino Buzzati's *The Tartar Steppe*, which I borrowed in my middle school library. But then I actually felt that the desire to read comes from the desire to figure out your place in the world. That's what pushes you to start. (40yo M)

The presence of a public library within the only middle school of a rural village represents an essential incentive to becoming familiar with books, especially for those children who cannot access a domestic library (Petit, 2002). This kind of example is particularly useful in terms of promoting equity, because it shows how to deal with reproduction and cultural capital differences through reading practices (Bourdieu, Passeron, 1970). A child coming from a family of non-readers has very few chances of becoming a reader. In these common cases, the school system must be accounted as the instigator of reading, promoting forms of public access to cultural goods, books and works of art. It's about «what pushes you to begin», in the literal terms used by a man who found his way to build a relationship with literature alongside a strong commitment to «understanding my place in the world». In this autobiographical reflection, the institutional resources of a middle school, mostly attended by working-class children, were used to offer a means of orientation and, in this way, to promote equity through reading practices.

The third example is about a person (60yo F) who suffers from poor eyesight due to albinism:

First, let me declare something: I wasn't the kind of kid who loved reading [...]. My desire to read and my love for books broke out in high school, probably thanks to school: I wasn't a child anymore, I was quite independent [...]. I started reading from the book tips received at school, I began to handle these books and I discovered my love for reading [...]. (60yo F)

This woman discovered an interest for literature thanks to high school: even if her family possessed an extended collection of books, her interest wasn't encouraged at home during her childhood (maybe for fear of

worsening her fragile eyesight). The way she discovered her love for reading is strictly linked to the book tips received at school, when she was 14 years old. This experience is described today as an explosion of joy that continued in the university years and marked her biography through an everyday practice of reading, which she describes as the finding of a shelter in which she actually feels at home. The last remark is about the traumatic event of quitting the practice of reading paper books in adulthood, which has been overcome by a genuine curiosity towards new technologies (especially audiobooks) that modified her mature relationship to the use of literature, adding a new dimension in her life-course.

Final remarks

I developed my interpretation of these biographical materials to highlight the combined role of family and school in accelerating or restraining personal engagement in reading practices. Family is the social and affective setting in which children get in touch with narrative fiction: the ritual of telling or reading aloud a story to kids before they fall asleep has been studied as a fundamental resource in the relational, psychological, cultural and cognitive evolution of the child. The act of receiving a story – which is a real gift – through the voice of a relevant adult represents a creative conquest for the child, whose imagination is stimulated to appropriate the tools of fiction embodying the 'as if' dimension in a potential space between play and reality (Winnicott, 1971). This kind of informal education is not only universally practised as a form of child caring, but it is also independent of the material possession of an objective cultural capital, because it is rooted to the human primary ability to narrate and create plots from facts and events (Brooks, 1992; Jedlowski, 2000). Taking into account this fundamental aspect, the family has a primal role in terms of education to narrative thinking in so far as it represents for the child the first environment in which stories are shared, ritualized, enjoyed and translated into everyday practices (Batini et al., 2020).

On the other hand, school has emerged as the place where this primal approach to narrative fiction turns into the teaching of literature, which is a more institutionalized domain made of canons, programmes, textbooks and didactics. We cannot hide the fact that the vertical structure of the pedagogical relationship tends to reinforce the idea of literature and «high culture» as a content that students have to assimilate in terms of measurable knowledge, rather than a powerful means inherently connected with the experiences that every child has gained in terms of narrative thinking. We should think instead about how valuable are the uses of fiction in terms of practices of democratization, emancipation and empowerment (Giusti, Tonelli, 2021). In other words, we should consider reading practices as existential resources deployed for the biographical

orientation and human understanding, involving a lifelong interplay between the sense of identity/otherness and the sense of reality/possibility, which is a key resource for the construction of individual biographies («finding our place in the world»).

These three examples taken from my fieldwork don't give any instructions for a general theory of reading in biographies, but they tell a lot in terms of hybridization between family and school as relational environments in which these strong readers have developed their love for literature as a lifelong learning. Dealing with their stories inspired my sociological interest in understanding the pivotal role of everyday reading practices, including reading aloud, as a means to stimulate both cognitive and affective resources, along with relational skills, creative and critical thinking (Batini, Giusti, 2017). In conclusion, if we envisage the future of reading as a priority to innovate school life in terms of pedagogical interactions, horizontal cooperation, democratization and equity, our main task is to imagine, design and experiment in new sets of educational tools for teaching literature through reading, reactivating the fundamental ability to appropriate a narrative text – which means: interpreting, understanding, exchanging, socializing it – and taking care of reading as a technique to embody and translate the symbolic dimension of literature into everyday practices, with regard to cultural transmission and transformational challenges for future human societies.

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Reading Aloud as a Tool for Inclusion

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ABSTRACT: *In Italy nowadays, family's socioeconomic status is still a predictor of the academic skills acquired by students: those from culturally and economically disadvantaged backgrounds are less likely to achieve educational success (Batini, Bartolucci, 2016), with inequality of resources and opportunities emerging from early childhood (Logan et al., 2019). These effects are especially found in migrant pupils, who often, compared to non-migrant peers, fail to achieve the expected minimum skill level. Moreover, they are more likely to experience early school leaving. Several studies show how the introduction of reading practices can restore equity in educational opportunities (Batini et al., 2017). The purpose of our analysis, which is part of a broader educational research, is to evaluate the impact of reading aloud in fostering the inclusion of foreign children in preschool (0-6) services, promoting democratic education from early childhood. Our research arises from the qualitative data collected through the project «Leggere:Forte!» («Reading: So Cool!»), in the school year 2019-2020, through two main instruments: logbooks and semi-structured interviews. Our analysis looked for any evidence that reading aloud may have fostered migrant children's inclusion and promoted their development. Analyses conducted on logbooks and interviews brought qualitative evidence supporting the potential of reading aloud as a tool for cognitive empowerment and inclusion. The reading activity, indeed, has made it possible to level out individual differences, affecting the climate of the school group. increasing foreign or non-native-speaking children's linguistic and relational skills, and promoting their integration.*

KEYWORDS: *reading aloud, cognitive democracy, literacy, foreign children, inclusion.*

Introduction

Reading aloud and its impact on developmental processes has been an important field of study for over 75 years. Numerous research have shown that reading aloud is the foundation of literacy development (Gold, Gibson, 2001), establishing a relationship between printed word and meaning, inviting the listener into a dialogue with the author and the reader. Through the mediation of reading aloud, younger children can approach stories early and train their comprehension skills; older children and teens are able to benefit from texts with a higher language level than

those they can access through independent reading, thus listening to texts that are more interesting and engaging for them.

The practice of reading aloud continues to be the focus of studies and research even today, as it is considered the most significant factor for younger children's literacy development (Kalb and van Ours, 2014) as well as the most important activity for building the background knowledge necessary to later achieve success in independent reading. Moreover, it has long-term effects and positive repercussions on the school career (Sénéchal, LeFevre, 2002).

In terms of benefits, reading aloud is now a well-established practice in supporting, promoting and enhancing many linguistic and cognitive skills (Batini et al., 2013), such as: vocabulary (Beck et al., 2013), syntactic development (Chomsky, 1972), word recognition skills (Kuhn, Stahl, 2003), and learning reading techniques (Farrant, Zubrick, 2013). Benefits also involve emotional and relational dimensions, such as social-affective skills (Saito et al., 2007) and empathy (Coplan, 2004; Johnson et al., 2013).

This activity, especially if carried out systematically and repeatedly, allows to broaden children and young people's emotional vocabulary, resulting in a greater ability to discriminate emotions, to correctly attribute meaning to both external and internal situations and to mentalize (Aram, Shapira, 2012).

Reading aloud is also effective in reducing and preventing prejudice. In fact, a recent study has shown how reading Harry Potter can help fight prejudice, particularly against immigrants, homosexuals and refugees, thanks to the process of identification that the story promotes between the reader and the literary character (Vezzali et al., 2015). In fact, the literary saga deals with issues related to diversity, cultural and individual differences, showing an attitude of openness, equality and solidarity in facing them. The study operationally demonstrated that this process of identification would result in a concrete decrease in prejudice.

From this perspective, reading aloud represents a potential tool for educational equality, able to promote and support the achievement of high levels of education and schooling, regardless of the initial starting point of individual students, both from a cultural and socio-economic point of view.

In Italy, in fact, the socioeconomic status of the family of origin is still a predictive factor of the skills acquired by students: those who come from culturally and economically disadvantaged backgrounds are less likely to achieve educational success (Batini, Bartolucci, 2016), with an inequality of resources and opportunities that emerges from the earliest years of life (Logan et al., 2019), with long-term effects also in terms of later employment (Power, Elliot, 2006). If we then look at how these discrepancies are articulated among migrant pupils, it emerges how foreign students often, compared to non-migrant peers, fail to achieve the expected minimum skill level, and are more likely to be early school leavers (MIUR, 2019; PISA, 2018). Results that are not surprising, if we

consider that migrant families are exposed to a higher incidence of precarious unprotected work and material poverty (ISTAT, 2020a).

Within the Italian educational services, second-generation foreign minors represent 13% of the population between the ages of 0-17, equal to 1.316 million boys and girls. Among these, 38.8% have a one-year delay in the curriculum, 12.2% of two or more years, and only 49% of students are on par (ISTAT, 2020b). It seems evident, therefore, how schools and the educational system in general represent the elective context in which to stem the exacerbation of inequalities. Several studies built on these understandings, demonstrating how also the introduction of reading practices within educational services supports the restoration of equity in training opportunities (Batini et al, 2017; Scierri et al, 2018).

The purpose of our study, which is part of broader educational research, was to assess the impact of reading aloud in 0-6 educational contexts, promoting democratic education from early childhood. Our analysis looked for any evidence that reading aloud may have fostered migrant children's inclusion and promoted their development. Qualitative analyses were conducted to assess the frequency and the trend over time of this kind of evidence.

1. Where we started from: «Leggere:Forte!» Project

Our research arises in the framework of «Leggere:Forte – Ad Alta voce fa crescere l'intelligenza» (in English: «Reading: So Cool!»), a project funded and realized by the «Regione Toscana», Italy, with the partnership and scientific coordination of the University of Perugia and in partnership with the Regional School Office of Tuscany, Cepell («Centre for Book and Reading» of the Ministry of National Heritage and Culture), INDIRE («National Institute of Documentation, Innovation and Educational Research») and the collaboration of LaAV (a movement of reading aloud volunteers led by Associazione Nausika).

«Reading: So Cool!» is a multi-year action project that is proposed as a real educational policy, since it aims at making reading aloud a structural practice of the entire Tuscan education system, and at producing a greater awareness in families of the importance of this practice. The training was structured through one-hour daily sessions of reading aloud, for at least 50 days, by educators and teachers to their students throughout the Tuscan education and training system, from 0 to 19 years. The research activity served as support and guidance for educational policy.

Our research results from the qualitative data collected during the project «Reading: So Cool!», in the school year 2019-2020, through two main instruments: logbooks and semi-structured interviews (Batini, 2021).

2. Study 1

The hypothesis of this first study was to explore and investigate whether integration and inclusion, both as general topics and in reference to foreign children, emerged from educators/teachers' interviews in relation to reading aloud activities.

2.1 Materials

Interviews: Among the various actions of «Reading: So Cool!», from June to October 2020, 57 semi-structured interviews were administered to 36 nursery educators and 21 preschool teachers who took part in the project (Batini, 2021). The purpose was to investigate their reading aloud strategies used within their educational services and to collect the practices they found useful during their experience. No questions related to foreign students were included in the interviews.

2.2 Procedure

The analysis of the interviews initially involved reading them in their entirety in order to identify comments, statements and opinions about foreign children, their inclusion in the class group and how, eventually, the practice of reading aloud had been able to improve the class climate or children's individual characteristics. In this first phase of analysis, all comments related to children with difficulties (language, behavioral, psychological) and comments related in general to the topic of integration were also collected.

2.3 Qualitative analysis

From this first analysis it was therefore possible to outline two categories of comments.

- Comments regarding foreign children (total 11)
 - 5 positive comments in preschool services
 - 6 positive comments in the nursery
- Other comments regarding integration and children with difficulties (total 23)
 - 10 positive comments in preschool services
 - 13 positive comments in the nursery

From the overall number of interviews (57), 34 positive comments were collected, relative to both categories, representing 59.64% of the total.

In relation only to the interviews carried out in the nursery services, corresponding to 36 interviews, positive comments, belonging to both categories, emerged in 52.77% of the interviews.

A value that becomes equal to 71.42% if we take into analysis the percentage of positive comments present in the 21 interviews collected with teachers of preschool services.

2.4 Conclusion

It therefore emerges that, although no explicit question was asked about integration, the role of foreign children or children with difficulties, these issues spontaneously emerged from educators/teachers' stories, in both educational contexts. This makes it possible to hypothesize that, on the one hand, the topic of integration and diversity is a predominant element in educational contexts from early childhood, and on the other, that reading aloud is a powerful and effective tool for moderating individual differences, improving the climate and management of the classroom group, and encouraging greater integration of children, both foreign and with difficulties.

As reported by some of the educators/teachers interviewed:

«I believe that reading is an excellent opportunity for everyone to overcome difficulties».

«I think that stories have an absolute value. They become a means for children to express themselves, even for those who do not speak Italian well, because they can find themselves in what we tell them».

«What I really enjoyed was the sharing of emotions while reading. The awareness that, even when reading for as long as an hour, there is cohesion and impressive group building».

3. Study 2

Based on the results of Study 1, we decided to further investigate how reading aloud may impact foreign children's development and integration. Specifically, based on data from the literature on reading aloud, we thought that educators/teachers' perceptions about them would have positively changed over time during reading aloud training. Given the disadvantaged cultural background often associated with foreign children, we hypothesized to find more negative comments from educational staff about them at the beginning of the training than at its end, with a decrease over time. On the other hand, we hypothesized an increase over time of positive comments.

3.1 Materials

Logbooks: Over the course of the project, from October 2019 to April 2020, 13,162 logbooks (8593 for the 0-3 range and 4569 for the 3-6 range) were received from 871 nurseries and 395 kindergartens. Logbooks were designed to monitor the progress of the intensive reading aloud training promoted by «Reading: So Cool!» in the 0-6-year educational services of the Tuscany Region (Batini, 2021). Logbooks were structured on a weekly basis and their items asked for: the length of reading aloud sessions, books read, average children's comments, attention, interest and participation during sessions, the presence of disruptive elements, and educators/teachers' emotional state while reading aloud and perceptions

about the activity. All logbooks were in Word, JPG or PDF format and educators/teachers submitted them by mail. All contents of the logbooks were stored and organized in an Excel file.

3.2 Procedure

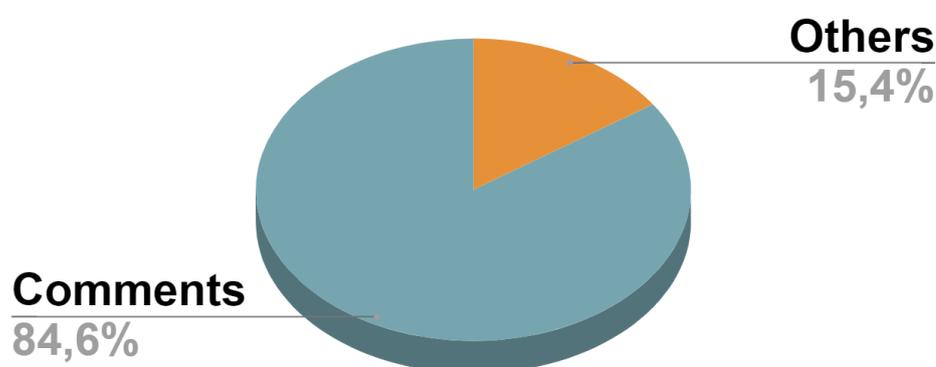
3.2.1 Retrieval of Extracts and Inclusion Criteria

We selected 46 keywords in order to look for extracts related to foreign children in the logbooks Excel file. All keywords were related to nationalities or foreign languages, such as: «foreign», «bilingual», «Chinese», «Albanian», «nationality», «Moroccan», «L2» etc. In this way, among the 13,162 logbooks, we found 739 extracts, each one containing at least one of the selected keywords. After this, we proceeded to delete all duplicates and those extracts that were not relevant to our research topic. Inclusion criteria of the extracts were: a) to contain a comment about foreign children's role or behavior during reading aloud sessions; or b) to contain a reference to strategies used to engage foreign children; or c) to refer to the use of a foreign language during the reading aloud activities; or d) to report children's reactions to the exposition to a foreign language. Thus, our sample was reduced to 408 extracts.

3.2.2 First categorization of extracts

We proceeded with a first categorization of the extracts. As shown in Fig. 1, two main categories were inferred: a first one, labeled as «Others», representing 15.4% of extracts and containing 63 excerpts related to educators/teachers' strategies with foreign children or use of a foreign language while reading aloud. The second category was called «Comments» and included 345 extracts (84.6%) reporting educators/teachers' perceptions about foreign children's behaviour.

FIG. 1. First categorization

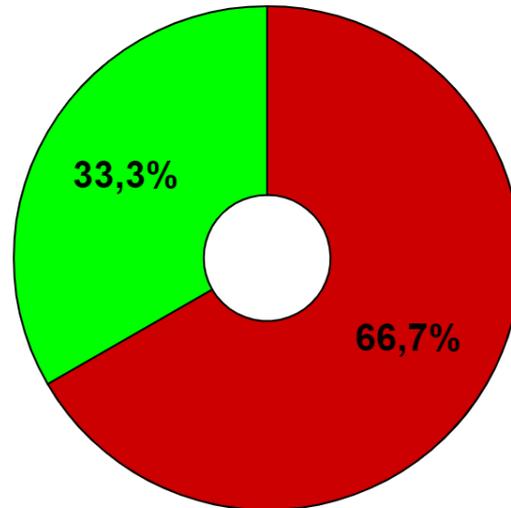


3.2.3 Second categorization: «Comments»

Among the 345 extracts labeled as «Comments» we found 115 «Positive Comments» (33.3%) about foreign children indicating observable improvements or positive aspects in several dimensions related to reading aloud activities (integration, attention, participation, etc..). On the

other hand, we also identified 230 «Negative Comments» (66.7%) in which foreign children were identified as disruptive or limiting the reading aloud activity (Fig. 2).

FIG. 2. «Positive» and «Negative» Comments



3.3 Qualitative statistical analysis

As shown in Fig. 2 «Negative Comments» were noticeably prevalent among educators/teachers' perceptions (almost double the positive ones). However, we were interested in how both Negative and Positive Comments were distributed over the weeks of reading aloud. Thus, we analyzed the sample of «Comments» and then performed a qualitative statistical analysis in order to figure out Negative/ Positive trends over time.

3.3.1 Sample description

All 345 «Comments» were contained in the logbooks sent by 148 sections that took part in «Reading: So Cool!» (specifically: 42 nurseries sections and 106 pre-school sections). A total of 3029 children were enrolled in these sections. The average time spent reading aloud in these sections was 7.4 weeks (min.= 1; max.= 11).

3.3.2 Percentages of Negative/Positive Comments by week

In order to investigate the trends of both Negative and Positive Comments we calculated the total amount of logbooks that, week by week, were received by the 148 sections of our sample over the course of 10 weeks of reading aloud. As we can see from Table 1, only a small fraction of our sample continued to submit logbooks until week 10.

Then, week by week, we calculated the total amount of Negative and Positive Comments sent by our sample and we obtained their percentages in relation to the total number of logbooks received in each week.

TAB. 1. *Positive and Negative comments ordered by week*

	Number of logbooks received	Number of "Positive" comments	Percentage of "Positive" comments	Number of "Negative" comments	Percentage of "Negative" comments
Week 1	148	7	4.73%	67	45.27%
Week 2	147	13	8.84%	48	32.65%
Week 3	142	12	8.45%	35	24.65%
Week 4	138	17	12.32%	31	22.46%
Week 5	130	21	16.15%	18	13.85%
Week 6	120	15	12.50%	12	10%
Week 7	104	14	13.46%	10	9.62%
Week 8	79	10	12.66%	7	8.86%
Week 9	50	1	2%	2	4%
Week 10	36	5	13.89%	0	0%

On the basis of these percentages we obtained graphics representing both Negative and Positive Comments trends over time.

FIG. 3 *Logbooks: Percentages of «Negative and «Positive» by week*

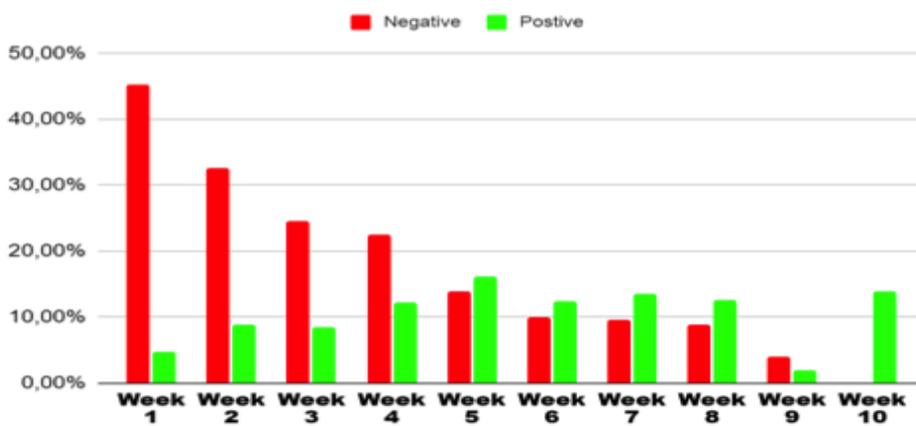
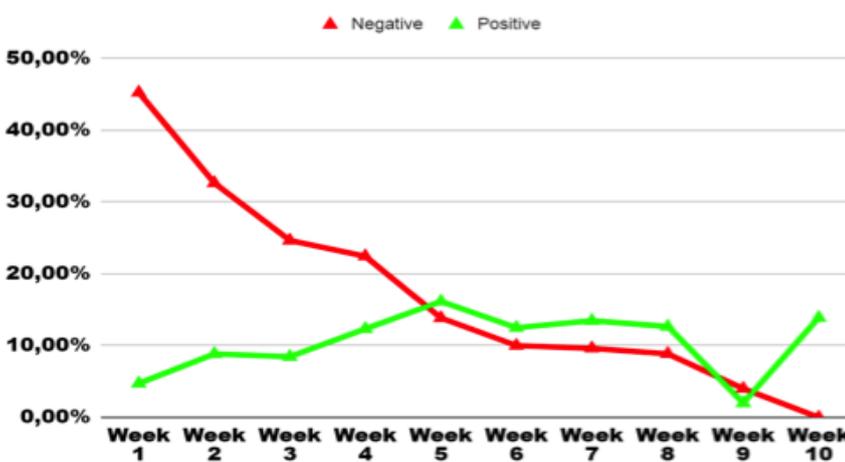


FIG. 4 *Logbooks: trends of «Negative» vs «Positive»*



As shown in Fig. 3, by week 1 only 4.8% of logbooks contained a «Positive Comment» about foreign children. However we can see a slow but stable

increase in «Positive Comments» percentages over time and, by week 5, «Positive Comments» (16.15%) outnumbered the «Negative» ones (13.85%). After week 5 there is a slow decrease in the Positive percentages. However the advantage over «Negative Comments» is maintained also in the following weeks (except by week 9).

On the other hand, «Negative Comments» trend is even more interesting. Indeed, as shown in Fig. 4, at week 1 almost one section in two (45.3%) complained about foreign children's behaviour during reading aloud sessions. Nevertheless, we can observe a constant and sharp decline, week by week, in the occurrence of «Negative Comments» and, by week 10, we can not find any «Negative Comment» sent by educators/teachers.

3.3.3 Analysis on «Negative Comments»

Focusing on «Negative Comments», we found that 72 sections of our sample (48.6%) sent us only «Negative Comments». However, only nine sections (12.5%) of this sub-sample complained about foreign children until their last week of reading aloud, while in the other 63 sections «Negative Comments» disappeared long before the end of their reading aloud training. On average, in these 72 sections, the last «Negative» Comment was sent at 3.4 weeks, while the average time spent reading aloud was 7 weeks.

We also found another sub-sample of 22 sections (14.9%) in which we could observe a clear shift in educators/teachers' perceptions about foreign children: over time the «Negative Comments» of the first few weeks of reading aloud disappeared and were replaced by «Positive Comments».

3.4 What changes were achieved?

All these findings suggest that, in less than 3 three months, something changed in educators/teachers' perceptions about foreign children. What changes were achieved? To answer this question, we categorized both «Negative» and «Positive Comments» in order to better understand their contents. Each Comment could be assigned to one or more categories depending on the presence of overlapping contents.

Overall, «Negative Comments» were categorized on the basis of the foreign children's difficulties that were highlighted: «Language Problems» (61.3%), «Attention Difficulties» (42.2%), «Behavioural Problems» (39%), «Manifestations of Disinterest» (24.8%), and «Not further specified» (4.8%).

On the other hand, foreign children's positive aspects and improvements underlined by «Positive Comments» were categorized as: «Interest and Participation» (52.3%), «Verbal Manifestations» (37.7%), «Knowledge of Italian Language» (27.7%), «Attention» (26.1%), «Behavioral Improvements» (12.3%), and «Inclusion» (7.7%).

While negative dimensions decreased over time, the occurrence of the positive ones increased over the course of the reading aloud training.

3.5 How were these changes achieved?

Focusing on the 63 extracts that we labeled as «Others», introduced at the beginning of our work, we organized this sample in some sub-categories that could explain how reading aloud may promote a positive change with foreign children. Specifically, we found three categories.

The first one, «Reading for inclusion», gathers nine extracts underlining how reading practices can directly foster inclusion within the class group, for example by reading traditional stories from foreign children's countries or reading books that deal with diversity issues and stimulate discussions related to inclusion.

The second one, called «Strategies», contains 25 extracts about educators/teachers' successful strategies used to involve foreign children during reading aloud activities: a) to read in a foreign language; b) to insert songs, nursery rhymes, or simple stories with lots of pictures; c) to use stories that children already know; d) to divide the class in small homogeneous groups; e) to change the characters' voice; f) to slowly increase stories complexity and gradually lengthen the reading time.

The last category, labeled as «Foreign Language», brings support to one of the strategies mentioned above. Indeed, we found 34 extracts reporting evidence of reading in a foreign language with the entire class group. These excerpts show that this practice is widespread in early childhood educational services and is appreciated by all children (both foreigners and Italians). Thus, it may represent a good strategy to involve foreign children without limiting Italian children's experience.

3.6 Conclusion

Our findings suggest that intensive daily reading aloud training may promote foreign children's development and inclusion. Moreover, it produces this improvement in a short time. Indeed, our results show that after five weeks of reading aloud a positive change emerges in educators/teachers' perceptions about foreign children. Data show an increase in «Positive Comments» over time and a parallel and even sharper decrease in «Negative Comments». It should be noted that logbooks did not contain any explicit question about foreign children; thus, each «Comment» represents something that was spontaneously observed by educators/teachers, something that was therefore considered salient and relevant. This aspect reinforces our findings, since it prevents the risk of having obtained socially acceptable answers and supports the evidence of a reality that educators/teachers have really been faced with. In this way, the «Positive Comments» trend implies that, by simply reading aloud, more and more foreign children's positive manifestations occurred over time and were noticed. Even more meaningful, the «Negative Comments» trend suggests that the disruptive element identified in foreign children, week by week, was no longer salient in the perception of the educational staff. Thus, while some educators/teachers stopped complaining about foreign children's behaviour during reading aloud sessions over time, others, who had

expressed «Negative Comments» at the beginning of the training, explicitly underlined a positive change in their attitude.

Another interesting finding is that educators/teachers' «Comments» at the beginning of the training portray a situation that we already know: almost one section in two complained about foreign children, underlining their behavioural, linguistic and attention difficulties and their lack of interest and participation. Hidden behind these comments, we can clearly observe the gap in educational opportunities and the cultural disadvantage to which foreign children are exposed beginning to emerge, even at these early stages of life. This is a teacher's comment that effectively summarizes this condition:

As noted above, there is a gap between children who are routinely read to at home and those who are not. The latter, along with the foreign children, have somewhat shorter attention spans and struggle to follow some of the complex stories that have been read in the section.

However, both «Negative» and «Positive» trends underline that reading aloud may be an important tool to stem the worsening of these inequalities. Positive dimensions identified within the «Positive Comments», indeed, reveal that this practice can foster cognitive benefits, improving foreign children's attention and language skills. These data are in line with previous research findings (Batini et al., 2020; Kotaman, 2013; Lawson, 2012; Zucker et al., 2013). Moreover, «Positive Comments» underline an association between reading aloud and foreign children's improvements in interest, participation and behavioural attitude. This finding confirms data from previous studies underlining the role of this practice in promoting interpersonal skills, emotional regulation and prosocial behaviours in early childhood (Batini et al., 2021; Betawi, 2015; Schapira, Aram, 2019).

By enhancing all these positive dimensions we can assume an indirect effect of reading aloud in fostering foreign children's inclusion. Indeed behavioral benefits and the increase in interest and participation, sustained by the parallel attention improvements, may foster a positive group climate, in which emotions and experience can be shared by all children. Moreover, linguistic development, such as a better knowledge of the Italian language, may help foreign children's communication with their peers.

However, the sub-categories called «Inclusion» and «Reading for inclusion» suggest also a direct effect of reading aloud in fostering inclusion, for example by directly promoting a meaningful emotional environment, by choosing texts that deal with diversity issues and stories from different countries or by reading in the foreign children's language.

In this way, educators/teachers' efforts and strategies were effective and scaffolded foreign children's development, providing the right environment in which to initiate this virtuous circle.

Conclusion

Analyses conducted on logbooks and interviews brought qualitative evidence supporting the potential of reading aloud as a tool for cognitive empowerment and inclusion. Results confirm the need to continue to investigate the role of reading aloud in educational contexts, in psychosocial development, particularly in the early years of life, in order to make reading more and more a tool for inclusion, development and integration.

The limits of this work particularly concerned the reduction in the number of logbooks received over time, an aspect that limited the analysis sample. In addition, the absence of explicit questions regarding foreign students and integration, both in the logbooks and in the interviews, represents a limitation, since explicit requests would have allowed for the collection of a greater and more representative amount of data. However, we also think that this aspect allowed for the avoidance of socially acceptable responses and highlighted the spontaneity and importance of the content expressed.

Future studies could explore more explicitly the impact of reading aloud on integration processes and the importance of this activity for foreign children, particularly in the early years. Moreover, future research should also focus on whether and how reading activities could be designed to meet the needs of foreign language learners, supporting their early language development.

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Reading Aloud and its Effects on Classroom Climate and Inclusivity

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ABSTRACT: *The present abstract aims to present the benefits of the reading aloud practice in the classroom in relationship with the classroom climate, inclusivity, and students' dropout. The classroom climate can be defined as a socio-affective context in which the relationship between the group is built, and it has the impact on students' cognitive and social participation and wellbeing (Di Masi, Zanon, 2017). Furthermore, the classroom climate has the significant effect on students' learning, achievement, and engagement in studying (Englund et al., 2008; Velloso, Vadeboncoeur, 2015). Inclusive school is defined as a school that accepts all the diversities, it adapts to different school methodologies and organizational choices stimulating students' cooperation and collaboration (Ianes, 2001). Several studies have uncovered numerous correlates of school dropout such as demographic variables, individual characteristics, psychological and behavioral measures, as well as family factors (Rumberger, 1987, 1995; Rumberger et al., 1990). In particular, demographic factors such as low socioeconomic status, neighborhood-level variables, gender, ethnic minority status, and low parental education are consistently found to be related to school dropout (Oakland, 1992; Weis et al., 1989). The advantage in terms of comprehension and vocabulary obtained through reading or reading aloud, it translates into an advantage over the educational success because it improves comprehension (Matthiessen, 2013) and reasoning (Batini, Bartolucci, 2016). Reading aloud integrated with other educational activities can be a powerful antidote of early school leaving, especially if used continuously. This practice reduces apathy and demotivation which are related to school dropout (Scierra et al., 2018). Furthermore, the intensive exposure to reading aloud improves the classroom climate and encourages students' participation (Batini, 2019). Reading aloud practice triggers emotional sharing not just with the characters of the story, but also with peers and the person who is reading aloud (Goleman, 2005, 2006). Moreover, this practice stimulates both emotional and social competence that generates prosocial behavior (Aringolo, Albrizio, 2016; Levorato, 2000). The school dropout, although always linked to many causes, is firmly associated with school failure (Dalton et al., 2009). The level of wellbeing perceived during the reading aloud practice was able to solicit students' motivation and participation in the classroom (Batini, Bartolucci, 2019). In conclusion, it is crucial to reduce the students' dropout because several studies have found that it has a significant impact on the higher rates of unemployment, lower income, dependence on public assistance, as well as poorer health. (Belfield, Levin, 2007; Colombo, 2013). Above all, reading aloud can be a relevant educational practice for reducing school dropout and improving classroom climate and inclusivity (Scierra et al., 2018).*

KEYWORDS: *Reading aloud, Classroom climate, Inclusivity, Dropout*

Introduction

The aim of the article is to present how the reading aloud practice can have a positive impact on classroom climate, inclusivity and school dropout. *Reading aloud* is considered in terms of interactive or shared reading that is guided by a teacher that tries to engage all the students in the discussion of the story. This practice is planned and purposeful and it has a specific structure (Biemiler, Boote, 2006; Acosta-Tello, 2019). At the beginning a teacher, who should be familiar with the reading aloud practice, anticipates a story to the students by showing them the cover of the book, illustrations, and by telling them about the author of the book. Furthermore, a teacher asks the students the questions about what do they think the story can be about, trying in that way to make them interested in the story. The second part is the reading aloud practice that is a guided practice in which a teacher is using different reading strategies such as emphasizing certain words, pausing between words and sentences and stop the reading if a teacher or students want to discuss the story or if the students have some questions about the story (Batini, Giusti, 2019; Batini, 2014). At the end there is a post-reading discussion in which a teacher is trying to engage all the students by asking them open-ended questions about the story. The discussion usually starts with simple questions regarding the plot and the characters of the story, then it continues with the deeper analysis of the story regarding moral of the story, messages, and interferences (Biemiler, Boote, 2006; Acosta-Tello, 2019; Batini, Giusti, 2019).

Classroom climate is defined as a socio-affective context that has an impact on students' cognitive and social participation, students' learning, achievement, engagement in the studying and wellbeing (Di Masi, Zanon, 2017; Englund et al., 2008; Velloso, Vadeboncoeur, 2015). It is important that the classroom climate is positive and friendly because in that way the relationship between the group is built. This can generate the empathic behavior which is the crucial motivational factor in the student-centred education (Bozkurt, Ozden, 2010). Furthermore, empathic behaviour engaging students has an impact also on their self-report success at school (Bozkurt, Ozden, 2010).

Inclusive school is defined as a school that accepts all the diversities, it adapts to different school methodologies and organisational choices stimulating students' cooperation and collaboration (Lanes, 2001).

School dropout is considered in terms of students who temporarily or permanently stop attending school before completing an education cycle, for example, ordinary level or advanced level (Lekhesa, 2007). In other words, dropouts are those students who leave school before the final year of the educational cycle in which they are enrolled. Early school leaving or dropping out of high school is a dynamic developmental

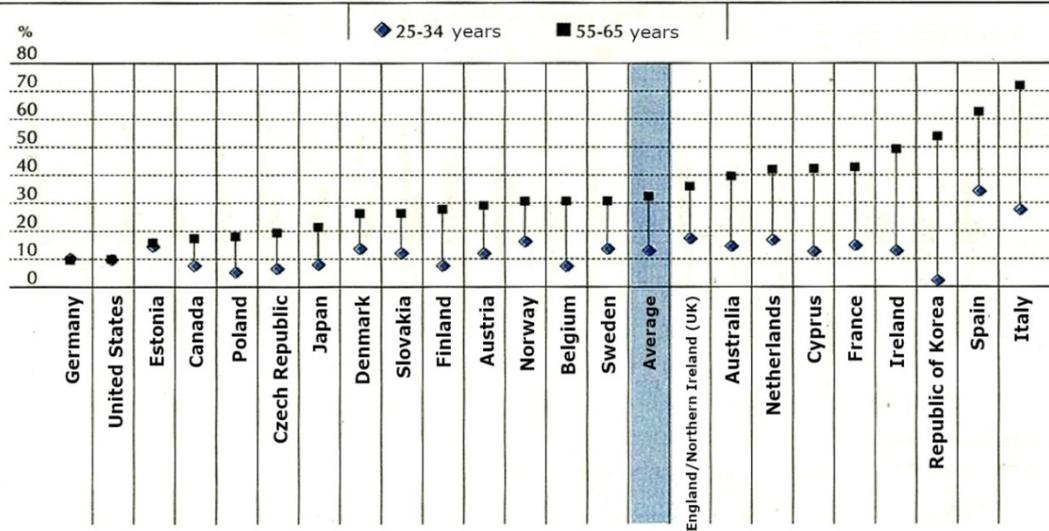
process that begins before a child even enters elementary school (Jimerson, Egeland et al., 2000). Prior studies reported a variety of individual and psychosocial factors that are related to school dropout such as personal characteristics, psychological and behavioral measures, family factors such as home environment, parental involvement, parenting style and quality of early caregiving, drug abuse, and variety of demographic variables such as gender, ethnic minority status, low socioeconomic status (SES), low family income, low parental education, parents' unemployment, neighborhood-level variables, and school characteristics (Oakland, 1992; Weis et al., 1989; Rumberger, 1987, 1995; Rumberger et al., 1990; Besozzi, 2009; Fan, Chen, 2001; Jeynes, 2007; Pomerantz et al., 2007; Spera, 2005). Furthermore, poor academic achievement, poor peer relationships, and failing grades are also strong correlates of school dropout, but more in terms of early indicators and not the roots of the problem (Borus, Carpenter, 1984; Ekstrom, Goertz et al.; Ensminger, Slusarick, 1992; Garnier et al. 1997;; Lloyd, 1976, 1978). The participation in school activities is also crucial. The findings indicate that the school dropout rate among the students considered at being at risk was markedly lower for students who earlier had participated in extracurricular activities compared with those who had not participated in those activities (Mahoney, Cairus, 1997). However, extracurricular involvement was only modestly related to early school dropout among students who had been judged as competent or highly competent during middle school (Mahoney, Cairus, 1997). It is also the case that many factors predicting dropping out of school are interrelated. For example, peer problems, behavior and achievement problems are strongly correlated with each other (Jimerson, Egeland et al., 2000). In order to reduce the risk of early school leaving, school should try to influence those factors which are school related such as classroom climate, inclusivity, achievement or educational performance, and peer relationships. Knowing which factors are most predictive of school dropout can be used to create better interventions to target students and to improve their chances of staying in school, graduating and entering in postsecondary education.

1. School dropout rates and models

The school dropout is a worrying phenomenon especially considering the recent statement of the United Nations Children's Fund organization (UNICEF, 2020) predicting that due to the COVID-19 pandemic there are 24 millions of students worldwide at risk of dropping out of school (UNICEF, 2020). According to the Fig. 1 that represents the school dropout rates in European and some non European countries in 2012, the school dropout rates were about 30% for the age group 55-65 and about 10% for the age group 25-34 years old. Some countries had school dropout rates above that average. For example, approximately 72% of people in Italy in

the age group 55-65 do not have a high school degree. Furthermore, approximately 40% of people in the age group 55-65 have not graduated from high school in France, Spain, Ireland, Netherlands, and Korea. Regarding the age group 25-34 years old, approximately 25% of young adults in Italy do not have a high school degree. When the U.S. population was considered, the school dropout rates were on average 6.4% for male students and 4.4% for female students (Fig. 2). Male students had higher school dropout rates in all ethnic groups examined. Considering different ethnic groups, the rates of school dropout were highest for Native Americans Indian/Alaska Native, Hispanic and Afro-American.

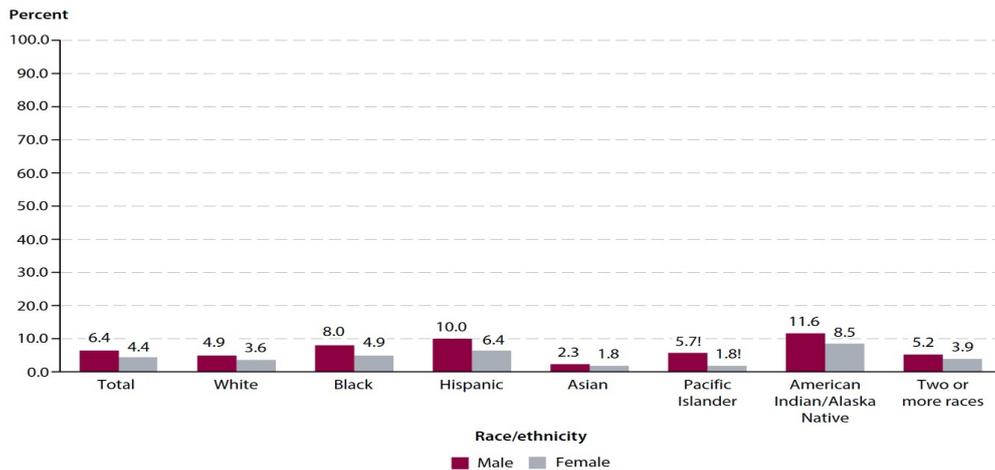
FIG. 1. Population without high school degree based on age range (25-34 and 55-65 years old)



Source: Survey Adult Skills PIAAC, 2012

FIG. 2. High school dropouts among persons 16-24 years old by race/ethnicity and gender in the U.S.: 2017

Percentage of high school dropouts among persons 16 through 24 years old (status dropout rate), by race/ethnicity and sex: 2017



Source: National Center for Education Statistics, 2017

Jeremy Finn (1989) from the State University of New York defined two key models of school dropout which are named *Participation-identification model* and *Frustration-self-esteem model*. The participation-identification model focuses on students' involvement in education process including both behavioral and emotional components in terms of behavioral and affective engagement. This model says that school withdrawal is caused by the lack of participation in school activities, which leads to poor educational performance, and consequently it leads students to identify less with school. The participation in school activities is considered in terms of involvement in both academic and non-academic school activities such as doing homework, responding to teacher directions and class requirements, but also participation in non-academic school activities and the governance of school. The failure of a student to participate in school and class activities, or to develop a sense of identification with school, may have the significant negative consequences. According to this model, the likelihood that a student will successfully complete 12 years of education is maximized if they maintain multiple forms of participation in school-relevant activities (Finn, 1989). Frustration-self-esteem model identifies the school failure as the starting point in a cycle that may culminate in the students' rejection of school. That leads students to voluntarily quit school or otherwise they are being expelled from school due to behavioral problems (Finn, 1989). In other terms, the early school failure may lead to low self-esteem and then to behavioral problems. This model has been used for years in the study of juvenile delinquency. The school failure or poor educational performance is considered in terms of failed classes, poor grades, test scores and retention. One of the most widely studied predictors of high school dropout is the academic achievement considered in terms of school grades and test scores (Rumberger, 2011). In addition, being over-age also strongly predicts the school dropout. In particular, according to the U.S. Census data 67% of all students enrolled in the ninth grade in October 2008 were fourteen years or younger, which is considered an average age in the ninth grade. However, that means that one-third of students was over-age in the ninth grade (Rumberger, 2011). In light of these findings, the question that arises is in which way the factors underlining two models of Finn can be manipulated in order to decrease the rates of school dropout and to improve classroom climate and inclusivity.

2. Reading aloud and school dropout

Various studies have found multiple benefits of reading aloud considered in terms of interactive or shared reading that seems to have a positive influence on the development of different skills (Batini, 2018; Batini, Bartolucci, 2018; Gambrell, 1996; Batini et al., 2020; Batini, Giusti, 2010; Lane, Wright, 2007; Swanson et al., 2011; Batini, Bartolucci, 2016).

Reading aloud integrated with other educational activities can reduce the risk of early school leaving because it affects the factors underlying the Finn's models of school dropout. Regarding the first model of school dropout or Participation-identification model, reading aloud can improve the classroom climate by reducing demotivation and influencing positively on students' participation, motivation, and wellbeing (Scierra et al., 2018; Batini, 2019; Batini, Bartolucci, 2019). Reading aloud the stories stimulates both emotional and social competence that generates prosocial behavior (Aringolo, Albrizio, 2016; Batini, Bartolucci, 2019), and it also reduces the school discomfort (Gambrell, 1996; Deci, Ryan, 1985; Lepper, 1988; Batini et al., 2020). In addition, this practice stimulates the emotional sharing not just with the characters of the book, but also between the students and with the person who is reading aloud (Gambrell, 1996; Deci and Ryan, 1985; Lepper, 1988; Batini, Giusti, 2010). It also improves the relationship between students and their teachers (Gambrell, 1996; Deci and Ryan, 1985; Lepper, 1988), attachment (Čunović and Stropnik, 2016), and it also has an influence on better understanding of social relationships in general (Levorato, 2000; Batini, 2018). Furthermore, reading aloud affects positively the socio-emotional development and empathy as well (Goleman, 2005, 2006; Aram, Hapira, 2012; Oatley, and Peterson, 2009; Mar, Oatley, 2008; Batini, Giusti, 2010). All these factors are essential for the positive classroom climate, participation in the classroom and inclusivity of the students.

Regarding the second Finn's model or Frustration-self-esteem model, reading aloud has the impact on the educational performance (Pawlowski et al., 2012). In particular, reading aloud influences numerous skills which are crucial for performing successfully at school. Various studies have shown that reading aloud influences positively the cognitive development, and that children who were exposed to this practice scored better in different cognitive tests (Horowitz-Kraus et al., 2013; Hutton et al., 2015; Beck et al., 2007; Batini, 2010). In particular, reading aloud in terms of shared or interactive reading influences the acquisition of a new vocabulary (Swanson et al., 2011; Cardarello, 1995; Senechal, 2006), phonological awareness, lexical and syntactic abilities (Swanson et al., 2011; Cardarello, 1995), sequential cognitive abilities and sequential planning (Batini et al., 2020). In addition, reading aloud improves the comprehension (Senechal, 2009; Weisleder et al., 2018), listening skills (Lane, Wright, 2007), and it increases the capacity of the working memory (Weisleder et al., 2018; Batini, Bartolucci, 2016). Studies have found that the reading aloud also improves the attention span (Lane, Wright, 2007), mnemonic abilities (Batini, Bartolucci, 2016), divergent thinking (De Bono, 1990), imaginative thinking and creativity (Batini et al., 2020). In addition, this practice improves self-esteem as well (Batini et al., 2020). Reading aloud in fact increases the desire towards learning (Batini et al., 2020) and it influences positively the academic achievement (Olagbaju, Babalola, 2020). In particular, the study on the university students has shown that the students labeled as strong readers, or in other words

those who claimed reading nine or more books per year, have shown to have significantly better scores on the test of numerical and verbal reasoning (Batini, Bartolucci, 2016). They seem to have benefits in terms of increased capacity of the working memory which is important for both numerical and verbal reasoning (Batini, Bartolucci, 2016). This is the compelling evidence that the reading aloud influences also the factors underlying the second Finn's model.

The studies have shown that during the reading practice left and right brain hemisphere are working in harmony (Gallo, 2003). In other words, left hemisphere is analyzing words and it is selecting the contents of the story, meanwhile the right hemisphere is reworking rational data by painting them with the colors of emotions (Gallo, 2003). Thus, after being exposed to the reading aloud, a person's brain is wired differently. That means that reading aloud increases the connectivity inside of the brain and it stimulates certain brain's areas (Berns et al., 2013; McInnes et al., 2003). The studies that used magnetic resonance imaging (MRI) have shown that people who were exposed to the reading aloud have better stimulation in the left temporal cortex, middle prefrontal cortex and central sulcus (Berns et al., 2013; McInnes et al., 2003). That was true even after five days of reading. These findings are significant if we know that left temporal cortex is responsible for the language comprehension, the middle prefrontal cortex is responsible for the reasoning, especially including the connection between social and human action, and the central sulcus is in responsible for sensation and movement (Berns et al., 2013; McInnes, Humphries, Hogg-Johnson, and Tannock, 2003; Mar, 2011).

Conclusion

The article shows the importance of reading aloud considered in terms of interactive or shared reading. This practice has been found to have lots of benefits that can be especially valuable in the school context. Classroom climate and students' participation and inclusivity in the classroom and in the school context are of special relevance for the students' wellbeing and educational performance (Di Masi, Zanon, 2017; Englund et al.,; Velloso, Vadeboncoeur, 2015). Inclusivity stimulates students' cooperation and collaboration which influence positively the classroom climate. On the other hand, the students' dropout or early school leaving represents a major threat not just for the wellbeing and educational performance of the students, but also for their future life quality. The dropout rates have been found to increase during the recent pandemic period of COVID-19, and that mostly regards the students coming from the low socioeconomic background (UNICEF, 2020). In particular, dropping out of high school culminates a long-term process of disengagement from school and has profound social and economic consequences for students, their families, and their communities

(Christle et al., 2007). In particular, leaving school before graduating from high school has been shown to have different negative implications on the future life quality (Belfield, Levin, 2007; Colombo, 2013). In other words, students who dropped out of high school have been found to have higher risk of multiple negative life events such as higher rates of unemployment, lower income, dependence on public assistance, criminal behavior, poorer health and also higher risk of early death (Belfield, Levin, 2007; Colombo, 2013). Furthermore, the dropouts seem not to be equipped well enough for the modern workforce which results in adding costs to welfare programs (Rumberger, 1987). They are also disproportionately represented in crime and incarceration statistics (Rumberger, 1987).

Importantly, studies have found that education is one of the strongest predictors of health or in other words people with more years of education are more likely to have better health (Deaton, 2002; Cutler and Lleras-Muney, 2006; Molla et al., 2004). Although education is highly correlated with income and occupation, evidence suggests that education still has the strongest influence on health (Deaton, 2002; Cutler and Lleras-Muney, 2006; Molla et al., 2004). In addition, more formal education is consistently associated with lower death rates while having lower education predicts earlier death (Molla et al., 2004). In particular, people with lower education have higher levels of risky health behaviors such as smoking, being overweight, or having a low level of physical activity. High school completion is a good predictor of the future life quality because it is a useful measure of educational attainment likewise being widely recognized as the minimum entry requirement for higher education and well-paid employment. However, the beneficial effect of education varies by sex, age, and race/ethnicity, with Afro-Americans benefiting more than Caucasians from having more years of education (Crimmins, Saito, 2001).

In conclusion, the school dropout rates can be decreased by introducing the reading aloud practice in the school curricula because the reading aloud has an impact on the factors underling both Finn's models of dropout (Batini, 2018). In particular, reading aloud influences the school performance, classroom climate and participation (Olagbaju, Babalola, 2020; Batini, 2019, Batini, Bartolucci, 2016; Batini, Bartolucci, 2019). In light of the compelling findings, it seems that reading aloud represents a simple, but valuable practice from which it can benefit both students and teachers (Gambrell, 1996; Deci and Ryan, 1985; Lepper, 1988; Batini 2018). This practice seems to have lots of benefits which can influence the students' decision about staying in school, that in a long run leads to the better outcomes and better life quality (Belfield, Levin, 2007; Colombo, 2013).

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Early Reading Promotion: Difficulties and Chances

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ABSTRACT: *Many studies show how the reading aloud practice in families, from early childhood, adds benefits, most at all in low-income backgrounds. Therefore, one of the main goals of reading promotion projects is to reach contexts marked by material and/or educational poverty, a goal not easy to achieve. This contribution aims to think about this question, starting from the outcomes of three researches carried out in Lombardy and in Milan Metropolitan City from 2017 to date, by a team from University of Milan-Bicocca. Methodologically based on Mix Methods Design, the researchers investigated the effects of three different projects about the early reading promotion: in 2017, the NpL activities of Lombard libraries; in 2018, the project «Lettura e Salute» (Reading and Health), born from the synergy between libraries and family counselling in Milan and neighbouring municipalities; in 2020, the initiative «Una stanza per crescere» (A room to grow), which experimented the gift of books to families with children from zero to three year old in the municipality of Milan. By comparing the results of these studies, we wish to discuss strategies that allow to reach families who usually don't read to children or, more generally, to reach educational poverty contexts. Specifically, we intend to think about two issues: first, the role of health services) and territorial network in order to spread reading aloud practice. Then, the need to deepen material and cultural difficulties preventing the establishment of this practice in many families.*

KEYWORDS: *Early reading, Reading promotion, Educational poverty*

Introduction

In the field of early reading promotion in Italy, this paper aims to think about difficulties and chances in order to reach contexts marked by material and/or educational poverty, starting from results of three researches realized on Lombardian projects from 2017 to 2020.

Since the intuition of the paediatricians who founded Reach Out and Read (ROR), reading in the family, from a domestic ritual, has become the subject of countless studies (Needelman et al., 1991; High et al., 2000) that have revealed its educational and training potential (Duursma et al., 2008; Sinclair et al., 2019). Today, we know that reading aloud to children from early childhood promotes language development (Toffol, 2011), facilitates learning to read and write (Niklas, Schneider, 2013; Klein,

Kogan, 2013), and supports the development of emotional competence (Mendelsohn et al., 2018).

Moreover, even more interestingly, we know that this practice can become a tool to counteract socioeconomic inequalities: many studies (Bracken, Fischel, 2008; National Institute for Literacy, National Center for Family Literacy, 2008)) show how, in families with low cultural and economic status, the habit of reading helps to improve language and expressive skills, which are important for a city.

Promoting reading from birth thus becomes a way to counteract educational poverty (Save the Children, 2019) and support not only the development of individuals but a change in the social order (Eu, 2012).

With this aim, the involvement of parents (Batini et al., 2020) from the earliest years of children's lives is central (Niklas et al., 2016) precisely to ensure early and continuous stimulation at the stage when brain circuits are forming and reading aloud has now been recognised as one of the most effective tools available to families (Taylor et al., 2016).

However, despite being a practice that is potentially accessible to all literate adults, evidence shows that those who read are mainly families with a good level of education and interest in books (Ronfani et al., 2006), so much so that reading (or rather its absence) is one of the indices that Save the Children (2017) uses to identify educational poverty. Moreover, other studies underline that in order to achieve results, it is not enough to «read» but «quality reading» is needed that can involve children and not just make them passive listeners (Phillips et al., 2008; Dexter, Stacks, 2014, Acosta-Tello, 2019).

For those who are involved in promoting reading from birth, it is therefore necessary to reflect on the ways of coming into contact with the most fragile families in socio-cultural terms and of proposing the practice of reading to them; we believe this is a pedagogical task, with reference to the thought of R. Massa (1987), for whom pedagogy deals, in both theoretical and practical terms, with the manifest or latent procedures, material or incorporeal, that allow a formative event to take place.

In this context, this paper wants to discuss the research results about three projects of early reading promotion, with the pedagogical aim to understand which strategies are better in order to reach people who live in poverty habits. About this multifactorial construct (Battilocchi, 2020) we pay attention to economic and cultural factories, using two indexes such as study level (Capperucci, 2017; ISTAT, 2021) and nationality (Bertani, 2012, ISTAT, 2021).

These searches were realized by an equipe of the Department of Human Sciences of Education of Milano Bicocca. Epistemologically based on structuralist pedagogical approach (Massa, 1992; Marcialis, 2015), we used mixed methods design (Creswell, Clark, 2017) to analyze models and outcomes of three lombardy projects.

1. The role of libraries: from activities to web

The first survey, realized for *Born to Read Lombardy (Nati per Leggere-NpL)*, focused on lombardian libraries and their early reading promotion activities carried out from October 2017 to May 2018; we analyzed 1200 activities and 1100 questionnaires with the main goal to know the types of intervention and to understand which ones were most effective in reaching families with low levels of schooling and reduced interest in reading. In particular, we compared the activities designed and carried out by librarians in three places: the library, schools (nurseries and kindergartens) and health contexts (family advice centres, vaccination centres and hospitals).

This study shows how different contexts of intervention allow librarians to reach families with different socio-demographic characteristics.

The first observation is related to nationality.

As you can see in the table, there is a statistically significant difference in the percentage of foreign families and children which librarians meet in reading activities carried out in libraries, health contexts and schools; when they remain in libraries they meet less foreign families than in other places.

The second observation shows another distinction, linked to educational qualification.

The distribution analysis underlines that the library context hosts users with higher educational qualifications than the health contexts (χ^2 32,9; $p < .000$) both with a sample of Italian nationality (χ^2 20,25; $p < .000$) and non-Italian nationality (χ^2 11,23; $p < .001$)

TAB. 1. *Educational qualification of parents participating in reading promotion activities in Library and in Healthcare Centres*

	<i>Library</i>	<i>Healthcare Centres</i>
<i>Middle School</i>	6,7%	14,8%
<i>High School</i>	38,4%	47.2%
<i>University</i>	55%	38,5%

TAB. 2. *Educational qualification of Italian parents participating in reading promotion activities in Library and in Healthcare Centres*

	<i>Library</i>	<i>Healthcare Centres</i>
<i>Middle School</i>	6,7%	14,8%
<i>High School</i>	38,4%	47.2%
<i>University</i>	55%	38,5%

TAB. 3. *Educational qualification of non-Italian parents participating in reading promotion activities in Library and in Healthcare Centres*

	<i>Library</i>	<i>Healthcare Centres</i>
<i>Middle School</i>	6,7%	14,8%
<i>High School</i>	38,4%	47.2%
<i>University</i>	55%	38,5%

We can say that the library, which was born to a democratic diffusion of reading, lives now an almost paradoxical limitation because it is attended mostly by people with a high level of education and who are already readers. The intervention model needs to be rethought in order to meet non-reading and low-educated families: since the research shows that 70% of the activities are carried out in the library, this data has highlighted the need to rethink the design and organisation of these activities in order to distribute resources differently and to search external alliances that can allow to reach new interlocutors.

There must be a shift from a model based on individual activities to promote reading to one based on a territorial network, in which reading is proposed in different contexts, through alliances between organisations and profession.

2. The role of the health context: possibilities and limits

Starting from this, we decided to deepen the role of the health context, so in 2018, with funding of Fondazione Cariplo, a second research investigated the project *Lettura e Salute (Reading and Health)*, which was born in 2013 from the work of the Milan Metropolitan City Health Authority (Ats), libraries sector of the municipality of Milan and Born to Read Lombardy (NpL). It promotes an alliance between public family advice centres and libraries in the towns of Milano, Sesto and Cinisello. We studied the project for 6 months and we analyzed 19 activities, 161 questionnaires and 38 interviews.

The results support the importance of this alliance for all involved.

Librarians, who go to family advice centers to promote reading in collaboration with healthcare professionals, are able to reach a wider audience which usually doesn't go to the library (nearly 80% of participating moms have not borrowed any books in the past 12 months). In addition, in this context, it is possible to propose reading from birth or even before, by participating in childbirth preparation classes.

For parents, meeting a librarian together with a midwife means thinking of reading not as a leisure activity but as one of the essential care activities from the first months of life. A second advantage is that parents don't listen to reading benefits only, but they are able to experience

reading in its materiality: they hear reading, they touch the books, they try it. In this way, they can directly experience a quality reading and this seems more accessible.

There is also a positive exchange of professional skills between operators that makes them better trained, in the interviews a librarian says:

From the beginning it has always been an exchange, and when we discuss we often say that we have taught each other many things. I learned a lot about child psychology but also about how to conduct group meetings.

However, also in the healthcare context, more inclusive than libraries, the setting rules can generate chances or difficulties in order to reach non-reading families.

Some operators observe that the request for enrollment generally leads to a selected audience that is highly motivated towards the reading and has high cultural level, while when the topic is proposed within a polythematic path it is more common to find parents who are less informed or less interested about this practice, and, usually, they have a lower cultural level. A psychologist says:

I feel our intervention is more useful here, because it also reaches mothers who had never even asked themselves the question. If the mothers at Largo Volontari ask themselves: what shall I read to my child, they are already planning to make an offer from this point of view, whereas many of the mothers we follow here in Sant'Elembardo have never even thought about reading to their child.

It is also noted that the group dimension and the linguistic medium hinder access to the experience by many foreign mothers who prefer individual counseling.

What emerges here is the importance of the rules, explicit or implicit, which generate the experience (Orsenigo, 2017) and which, independently of the operators' will, select the users.

The course taught by an expert requires a parent who is able to recognise his or her own training needs; this is a self-sustaining model that excludes those with a different approach to parenting (Formenti, 2008). It becomes a priority to look for other ways of getting in touch with families and offering them reading, even and especially when they do not feel the need. This is not to impose a practice but to promote awareness of it where it is lacking.

3. The role of mediating object

In an attempt to test new tools for the individual engagement of families, with particular attention to those in fragile socio-cultural conditions, in 2019-20 the promoting group of *Reading and Health*, with funding from

Centre for Books and Reading (Cepell), has created a new project, called *Una stanza per crescere (A room to grow)*.

The main strategy is the gift of a reading kit (consisting of a book and a meter with advice on types of reading for ages), a common action in projects promoting reading but which had never been implemented in Milan. The primary objective was to reach families with a low socio-cultural level or who were not yet interested in reading, and, also after reflecting on the results of the research on the Reading and Health project, two privileged working methods were identified: on the one hand, systematic intervention in vaccination centres, where almost all children within the year converge, and on the other, the involvement of family paediatricians (only a few of them are just involved in reading projects in Milan) and nursery municipal school teachers as mediating figures in the individual and constant relationship with families.

Due to the pandemic, the project underwent many transformations and, in particular, most of the interventions linked to the health contexts could not be implemented. However, the evaluation research¹ on this project has shown that it is precisely the health emergency that has made it possible to discover and create new territorial alliances that have proved to be very successful.

One of the most significant is with the network *Qu.Bi. (Quanto Basta, How much is Enough)* a Milanese project that aims to create territorial networks to identify and support families and minors in conditions of economic and educational poverty. During the pandemic, in municipality 5, the library, closed to the public due to a national lockdown, managed to get in touch with these families thanks to the Qu. Bi network. The distribution of reading kits was included in the distribution of food parcels, and, most significantly, the librarians were able to get to know these families (number and age of children, reading tastes...) and to introduce them to the service, creating dialogue and relationships. One librarian says: «It was a unique opportunity to meet families who didn't even know the library and the services it offers».

The experiments carried out to combat the emergency have been reworked and transformed into new procedures and strategies for intervention on the ground. We can define it as an informal training of operators because the pandemic situation forced them to reflect on an urgent issue in the months of lockdown but still relevant in the promotion of reading: how to reach those who do not already frequent the library.

This situation shows how the book in the project is not only a mediating object (Palmieri, 2011) between adult and child (final objective)

¹ The work is still in progress, here we present the first results emerged. For the study, we are analyzing ten interviews and 705 questionnaires with open and close questions.

but also between services and families, opening up spaces for mutual knowledge where interest in reading can be built up.

This book also mediated a comparison between different cultural approaches to reading: at Save the Children's Italian school for foreign women in City Hall 6, thanks to the collaboration of the Italian teacher and the cultural mediator, it was possible to conduct interviews with these mothers. Talking about the book received, relevant themes emerged: first of all, these women feel balanced between the Italian-Western culture that assigns a fundamental function to the book in the educational process and the culture of origin (Maghrebi) that mainly uses the dimension of orality in the family narrative to the children. Moreover, they are in difficulty in reading aloud texts in a language that they do not yet master with confidence (and sometimes do not fully understand), a situation that reduces the dimension of pleasure both for the parent and for the children who listen to a non-fluent reading.

These issues undoubtedly need further investigation, but, even in this form, they suggest a complex landscape with which the promotion of reading has to deal, a landscape in which the book can be perceived not as a gift but as a foreign element or even an obstacle.

Conclusion

The three studies were carried out with a general to specific approach: the first examined the organization of reading promotion activities in Lombard libraries, the second focused on a particular type of activity, (the initiatives carried out by librarians and health workers in health advisory centers) and the third investigated a single action, such as the gift of a book.

At each level we have tried to highlight how the models and strategies used, beyond their intentions, delimit fields of experience which, implicitly, may exclude or include specific groups of families.

Trying to generalize, in order to fight educational poverty, we can highlight two lines of work that can become strategies to make early reading promotion projects more inclusive: first of all, the need to consolidate a model that moves from thinking about the single intervention to the construction of a wide and detailed territorial network to contact various types of families. However, in this tension to reach all people, equality becomes equity when it is possible to reach each one, in its specific singularity, or, to quote Recalcati (2015), it is essential that the care is not anonymous but it is a care of the proper name. Gestures and strategies that create dialogue between families and services then become significant to understand how to help parents in reading with children.

We believe that pedagogical research has an essential role to play in this process, as it returns results in connection with what has been done, thus offering the possibility to critically rethink actions to promote

reading. In this context, it would be interesting not only to investigate the benefits of reading or the outcomes of projects, but also to try to understand the difficulties encountered by non-reading families, at various levels: economic, cognitive, emotional and cultural. With the aim of a non-anonymous intervention, the next step could be to investigate the meanings that parents non-readers attribute (or doesn't) to reading so as to imagine strategies to diversify and to individualize interventions.

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Schools as a Potential Source of Inequalities Reproduction: How, Where and Why?

Societal Commitment to Develop People's Potential: The Italian case

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ABSTRACT: *In this essay, schooling drop-out understood as the loss of human potential is seen from a historical-political-economic perspective, taking the Italian national case as an example. This experience will be followed by the international one. Respect to educational policies the analysis will start from the economic and consequently social disparities between Italian natives starting from first post-war period. This case could be related to the situation of immigrant students especially for those of the first generation. History teaches in Italy that the low level of education of native parents tends to repeat the same pattern in their children as it does for immigrant parents. Due to the migratory process, they often do not finish their studies and arrive in the country of destination with children to raise. Invalsi 2018 report points out how tests carried out by second generation students produce better marks than those carried out by first generation ones. From the first legal achievements that allowed all children to go to school and therefore support policies for families in the growth and development of potential, a school model will be outlined in a welcoming and motivating social context. A legislative framework from the 1960s to the latest EU regulations characterized the issue of equal opportunities and school autonomy in contrast to dispersion not only to support the most disadvantaged classes (poor people, immigrant, etc) but in general to emphasize the uniqueness of the individual. The dynamics between the humanist and technocratic tendencies since the 1990s has been unbalanced on the latter. All of this has underlined by contrast the relevance of the school to the fore, conveying an education based on social commitment and attention to needs and phases of development. The best practice App in progress applied in the classrooms of the multiethnic Roman), will be an example of how the use of various technological aids together with the commitment of the educating society can support an inclusive path capable of unlocking human potential.*

KEYWORDS: *school drop-out, school autonomy, equal opportunities, education, social community.*

Introduction

It is the duty of the Republic to remove all economic and social obstacles that, by limiting the freedom and equality of citizens, prevent full individual development and the participation of all workers in the

political, economic, and social organization of the country.
Art. 3 com. 2 of the Italian Constitution

The state as an active part of the educating community has the task of releasing the potential of each individual by promoting an environment suitable for this development. Since 1948 the year of the promulgation of the Italian Constitution, various political and legislative actions have attempted to implement this principle by facing the challenges that society has presented and continues to present. Since the promulgation of the Constitution, the commitment of Italian state and European Union have brought a profound change in the world of education.

At the end of the Sixties, with the law «Scuola Media Unica» (L. 1859/1962) and «Asilo per tutti» – nursery school for all (L. 444/1968) – the selective school becomes indicative and the State begins to participate in the life of educating community. The family has been increasingly supported by the State since 1971 with the law (no. 820) known as full-time. Few years later, Italian law will also include the disabled within the classes, abolishing the special schools (Law 517/1977). In a first phase, the State supported families in the care and growth of their children, subsequently through other actions it enabled the school to be autonomous in the choice of study plans and in the integration of the curriculum (no. 59/1999). The integration of the disabled and the autonomy of the school organized according to the needs of the local community have allowed even the most complex situations, both family and peripheral area, to be able to follow the growth of students trying to combat school dropout and school failure phenomena. Prevention, intervention and compensation are considered the strategic levers for overcoming the challenges in early school-leaving according to the 2011 EU Recommendations.

In this essay, the development of the human potential that promotes the singularity of the individual in a specific context is observed from an inclusive perspective. The new idea of progress, as theorizes Aldo Schiavone (2020), understood as a balance between knowledge, bonds and powers contributes to the development of human potential. This policy includes tradition and innovation in which the uniqueness of the individual and the strength of the group placed in a respected environment. *App In Progress* project (carried out in a multi-ethnic suburbs high school) has create the conditions for experimenting active citizenship sharing and using technology to enhance individual skills and their humanity values (Cavarra, 2015). The educating community made by schools, social partners and the local area provided a welcoming setting for the experience of four classes of students and the contribution of each individual child, enhancing their skills and including their personal contributions in teamwork.

1. The school for everyone

With the law n. 1859 of 1962 which saw the construction of «Scuola media unica», the compulsory schooling provided by the Constitution is activated. The «Scuola media unica» responds to the democratic principle of raising the level of education of each citizen and in general of all the Italian people. It contributes to their development by strengthening the ability to participate in the values of culture, civilization and social coexistence. After the law of «Scuola media unica» the «Scuola materna statale» – State kindergarten – with the law n. 444 of 1968 is compulsory for all children. At the end of the 1960s, the selective school became indicative and the state began to participate in the life of the educating community from the very first years of life. Art. 1 of the law n. 444/1968 says that the educational objective from early childhood must be to promote relationship, resilience, responsibility and regulation. ISTAT (Save the Children, 2016) also considers resilience and relationality added to standards of living and participation as the indices on which Educational Poverty (IPE) is measured. These indications show that the community's commitment to develop individual and social skills starts from the earliest years of life. This analysis is also confirmed in the Preamble of the International Convention on the Rights of the Child of 1989: «the family, as the fundamental nucleus of society and as a natural environment for the growth and well-being of all its members and in particular children should receive the assistance and protection necessary to fully assume their responsibilities within the community».

With the law n. 820, of 1971, called «full-time law», the educating role of the family is supported by the state, helping to enrich the education of the pupil. Basil Bernstein's studies on the linguistic code and mental development, which refer to Pierre Bourdieu's theories of habitus, underline the importance of the task of the «State school» to enabling everyone to raise personal potentials. This could be done by emerging from the logic of closure and power's market that transforms public education as an agency promoting «program's industries» (Bourdieu, 2006).

Bourdieu and Passeron (2006) in their text *Reproduction* develop an extremely critical analysis of the school system aimed at restoring the existing social structure rather than promoting social mobility. Education, understood as instruction, generates habits concerning the relationship with knowledge. These habits would converge with the familiar habits of certain social groups and in this regards they would find themselves at an advantage over others. In this way, the school system would not tend to select who has the knowledge, but who belongs to a specific social class. Habitus which can be defined as «*embedded social order*» represents transferable systems, generating and organizing principles predisposed to function as structures. This system could design paths that individuals unconsciously believe they are choosing.

Basil Bernstein's theory of so-called «verbal deprivation» (developed and made known in Italy between the late 60s and early 70s) believes that socio-economic differences have a decisive influence on language and therefore on academic performance. While the middle-class family is person-oriented by constantly mediating interpersonal relationships through language (called elaborate code); the worker and peasant family, normally a positional family, is oriented on the roles covered by each member within it (Colombo, 2018). The language, in this case called *restricted code*, is characterized by the scarcity of the formal elements that contribute to its organization, by the rigidity and predictability of its structure. The simple and immediate form will convey a concrete and descriptive content respect to the analytical and abstract dimension of the developed code.

On the basis of these results, compensatory education programs (for example the *Head Stars* program) were developed in the United States in the 1970s, with the aim of providing disadvantaged students with linguistic and cultural stimuli which they had been deprived by family education (an Italian application is the full-time law n. 820/1971).

The results of didactic research and reflections on language education were the basis of the inspiring principles of law 517/77 which constituted a profound develop for the school system. From the constitution of «Scuola media unica» with the law 1859 of 1962 to the law 517 of 1977, the traditional school, made by the single teacher, becomes collegial and for everyone. The logic of the program is replaced by programming and the vote by judgment. The adoption of an assessment system no longer linked to grades but to an articulated judgment responds to the need to assess the student in relation to his possibilities. The aim was to identify the most suitable strategies and methodologies for achieving educational goals.

1. The school of uniqueness in the specific territory

Hospitality is about recognizing the value of people. An example of this application was Falcucci document (1975), considered the Magna Carta of the integration of pupils with disabilities through a new way of being in school environment. What matters is that people feel this recognition and feel helped in their commitment to personal self-fulfillment. The big leap in quality that the school should make consists in the creation of a differentiated, individualized and personalized educational and didactic organization for all pupils and not just for certain categories.

Giving more time and more opportunities was the motto of Benjamin S. Bloom (1913-1999), an American educational psychologist, who taught at the University of Chicago and worked as a consultant for educational programs including the Mastery Learning. Bloom devoted his studies to understanding learning processes, recognizing the intentionality of the teacher in planning to offer the best conditions for everyone to be able to

learn. His method invites teachers to prepare favorable conditions for learning based on the individual needs of each student. The condition for the application of this perspective is, of course, the recognition of the individual dimension of learning and, at the same time, the admission of the possibility that anyone can learn anything. The determining factor is time; everyone must be guaranteed the opportunity to dedicate time to learning (Bloom, 1968).

The entire school structure starting from individual differences in learning is involved, not only the choices of teachers and their relationship with students or disciplinary knowledge. The personalization of study plans and the choice of integrating the curriculum are implemented and strengthened by various legislative actions starting from the Bassanini Law n. 59/1997, the law that establishes school autonomy. This is followed by Presidential Decree No. 275 of 8 March 1999, which innovates the organizational aspects of the school and recognizes the full decision-making of school structures called upon to guarantee a quality Offer Training Plan (PTO).

The introduction of school autonomy with Article 21 of the Bassanini Law is considered a first form of application of the subsidiarity principle implemented by the European Union law. «Decisions must be taken as close as possible to the citizens» was a principle formally implemented in the Italian Constitution with Constitutional Law n.3 / 2001.

In its main operative translation (Presidential Decree 1999 n. 275) it is stated that the planning and implementation of education, training and instructional interventions are aimed at the development of the human person (Art. 1) and guarantee of freedom of teaching and cultural pluralism. This specifies and clarifies how the experimentation of school autonomy, aimed at improving the outcomes of the teaching-learning process concern research and teaching methods that favor the cultural and educational growth of pupils. These actions, on the one hand, are aimed at promoting cultural growth and, on the other, preventing early school leaving (like as 2011 EU Recommendations).

2. From EU indications to an Italian experience: App In Progress

The Group for School Policy 2014-2015 (European Commission 2015) has developed policy guidelines for the implementation of an approach to the phenomenon of school drop-out based on interdisciplinarity and support from the reference community. These actions encourage success in education and training, through practices linked with school-training life that can have an impact on the results, well-being and support of students (INAPP, 2017).

The key conditions for enabling an integrated approach have been identified in five thematic areas related to each other: school governance, the role of the teacher, student support, home environment and external

actors seen as a network, creating strong links with the community in which the school is inserted.

The school should offer everyone a diverse environment, to enhance of potential and to adapt specific learning needs of each pupil. Teachers who play a fundamental role in the learning process of children and young people are the main agents of their educational success. The research shows that a positive relationship between teacher and student is the factor that most affects the quality of commitment and results. The irreplaceable function of the teacher makes culture a place for development (Recalcati, 2014). For Recalcati (2014) there is no transmission possible without a meeting. A stimulating home environment and parental involvement are crucial for the child's learning and for his cognitive, social and emotional development. The involvement of external parties, professionals and institutions also prevents drop-out. Different subjects can offer new and complementary perspectives that help to understand and find solutions aimed at the specific needs of students.

These areas have given rise to providing indications and operational reference lines in the creation of a European Toolkit for Schools promoted by politicians and sector operators. European Toolkit for Schools are accompanied by practical examples, concrete measures and effective methods to promote academic success and prevent dropping out (INAPP, 2017). *App In Progress* an Italian best practice developed in 2015 in the multi-ethnic Roman suburb of Tor Sapienza is in line with these projects and some of the priorities contained in the FSE objectives relating to the programming of the 2014-2020 structural funds in the field of employment, education and training (thematic objectives 8 and 10). In fact, the concept of inclusion and development of potential concerns both the relationship with oneself, group and reference's community.

App in Progress follow students in their personal and professional growth. It helps them become a conscious adult and creates a kind of active citizenship and participatory governance. The innovation starts with the individual, involves the group and extends to society and the surrounding area. With a magnifying glass inside the passions and anxieties of the world of adolescence, crossing the classrooms of educational institutions, *App in Progress* aims to have a dialogue with young students, dealing with issues that are close to them. Through a process intervention that follows the model of *Learning by doing* (Dewey, 2014), a concept taken from pedagogical theories in which learning is also linked to practice and doing, tries to focus attention on the development of an idea and on the phases that follow its realization. It deals with issues related to the real and virtual world, face-to-face interaction and mediated by screens. It proposes to activate processes of awareness and reflection, tries to stimulate models of reasoning and argumentation both for personal well-being and for school growth projected towards future professions.

The project uses techniques for the individual, small and large group of students to educate a reflective spirit. This is by fueling the development of soft skills such as autonomy, flexibility, adaptability, ability to plan and organize, transversal characteristics to multiple contexts.

Designed for young people (from 15 to 19 years old), the process tends to stimulate and encourage the social relationships that are created (Gardner-Davis, 2013) by activating awareness mechanisms. The socio-pedagogical activities of *App in Progress* include psychodrama (Boria, 1991), in its socio-dramatic declination more suited to the school context, centered on the social and collective aspect of the problems (Kellerman, 2007). Student's class in this sense becomes (antechamber of society) the subject. Education is based on a sense of community, on the importance of sharing and mutual help as pillars of democratic education (Dewey, 2014; Montessori, 2004).

App in Progress guides and supports through an interdisciplinary and multidisciplinary team, joint action between school and employers in a social context in which schooling was found to be low as well as the lack of training. It was considered essential to relate children with themselves, with their peers, with educational institutions and with professional environments starting from their passion, in this case for videogames. This passion unites all students who represent normality in a multiethnic class of cities: first and second generation foreign, those in disadvantaged socio-economic conditions, dyslexics, students with attention problems, those suffering from emotional distress and the disabled (Dovigo, 2019). During the activities, many students have benefited clearly such as the case of a Chinese boy who is not very integrated in the class group. He has found a space within it by inserting the ideograms for the choice of the logo and the name of his working group. Other students with learning disabilities participated by taking photos and giving their contribution in a harmonious and lively way. Particularly undisciplined students reflected together with classmates by writing a composition on respect and life in the classroom and some of them shy were able to communicate their emotions through channels parallel to speech, such as drawing and writing.

The conception of videogame's plot started with creation of one's avatar. Choosing the character and identifying three strengths and three shortcomings made the experience as a projective activity. In this way students talked with their own insecurities, noting on more than one occasion that some defects can also be considered as merits. For example, the case of fragility which for some is a defect but for others is a virtue because it is linked to delicacy. Some students, who were not satisfied with the own character, decide to transform it into something else by arguing the reason for this transformation. This pretext was the occasion for a reflection on the homogenization of a group and its dynamics which could create loss and lack of identity (Cavarra, 2015). Sharing the activities carried out individually within the class group has

often been an opportunity for reflection and in-depth analysis as well as making one's character dialogue with the characters of classmates allowed a mediated and authentic encounter. The students staged doubts, uncertainties, expectations and dreams through drawings, words, images and stories (Cavarra, 2014).

Through the integration of new communication languages within the educational, didactic and training models to release the potential of each pupil, each child has entered into a relationship with a group of peers and has taken an active-creative role within the whole ideation-realization process. This model has allowed a dialogue between multi-ethnic cultures (Italian, Arab, Romanian, Russian, Spanish and Chinese's culture) enhancing cultural knowledge and personal predispositions. 100 students of four classes and teachers of Italian, mathematics, English, art education and technology were involved starting from a vision that supports the unity of knowledge and the concatenation of teachings through a logical link. This philosophy starts from the conception of man seen as a microcosm, which has the characteristics of the universe in itself, overcoming the Cartesian dualism: finite-infinite, material-spiritual and technological-humanist. The connections and the restructuring of the whole as Maria Montessori theorized in her Cosmic Education starts from the order of nature, gradualness and cyclical nature that in the more advanced classes is realized in the interconnection of knowledge (Montessori, 2007).

Across the various disciplines, it was possible to work on the strength and cohesion of the group, teamwork and awareness of the process from conception, planning, programming to the realization of a game idea. The entire process involved companies that produce video-games by hosting profession in the classroom who deal with the various stages of development. This is a way to meet educational and the world of work. Story writers, designers, programmers, screenwriters, modelers, copyright lawyers and marketing experts were just a few figures involved in the orientation process. The guiding objective starts from the assumption that awareness of the entire process can describe the video-game in its creative complexity, going beyond its mere use. Process' descriptions involved in its realization can help young people to choose study and professional paths, starting from their own attitudes and predispositions. The importance of the child's life context and real experiences that start from the concrete, take on a decisive importance in the stages of learning development (Lefrancois, 2000).

App in Progress, conveying humanistic content using digital aid, was inspired by the concept of inclusion of the Center for Studies on Inclusive Education in which everyone feels they are appreciated and whose participation is welcome. The massive introduction of technology in general and the video-game in particular were taken into consideration to reflect on the fact that each generation should define the nature, direction and purpose of education, to ensure the highest degree of

freedom, rationality and relationality that he will be able to achieve (Civettini, 2017; Bruner, 1997).

Conclusion

From the postwar period onwards, the contribution of Italian and then European politics laid the foundations for structuring a school for everyone, living with an increasingly commercial logic. In fact, the task of education is necessary in making technological products convivial in the wake of Illich (1974) through a different way of imagining, making and practicing technologies tailored to the community. To the extent that such technologies promise no miracles, subjugation or enslavement could enable emancipation and empowerment. For example, shared space and collaboration can be facilitated by digital technologies through which new psychic and collective identifications can be experimented (Stiegler, 2015). Even today school policies and in general the collective ones in support of this development must be promoted. The commitment of the state and the reference community appears essential.

The concept of «inclusion» is essential in the present historical moment, as emerges from the Council Recommendation (2018) of the European Commission, where inclusive education is closely connected with mobility and social inclusion. In recent years, the word inclusion has begun to replace the word «integration» (Booth-Ainscow, 2014). If integration tends to identify a state or a condition, inclusion rather represents a process. A philosophy of acceptance is the ability to provide a space within which everyone can be valued and respected (Booth-Ainscow, 2002). From an inclusive perspective, there are no disabled, foreigners, poor and normal people, but different abilities, attitudes, talents and different social contexts of reference. This is the perspective that inspires *App In Progress*. The contribution identifies itself as an interactive environment between the world of education and the social, national and international, real and virtual one. During the course, the students felt appreciated and contributed to the co-construction of knowledge (Codato, 2018). The concept of inclusion starts from the unitary vision of the individual within the environment. To the commitment of the state for the enhancement of individuals is also necessary to integrate new technical aspects. They carry a mobile and plural identity, which involves other forms of thought, self-perception and culture features made up of divergence and creativity.

Today's society hosts a global community in which it is necessary to communicate with the pluralism of cultures by educating to dialogue as rule and resource. On the one hand, it is necessary to overcome prejudices and mental habits linked to the size of the group and individual to be seen for its own uniqueness. Acting locally and thinking globally should be the common thread that binds the various educational actions in which we can work on the inclusion of the individual in the wider

community. The school of autonomy, a mobile and sensitive organ of society, is linked to its environment through an activist reinterpretation (Ceccatelli, 2015). Continuous learning in which self-care is inherent favors social integration and the development of personal skills. It starts with developing and enhancing talents and vocations by activating an intimate journey between oneself and culture, an imprinting that remains for the future as a link between self and other, between individual and society.

The value of the person and his uniqueness (Montessori, 2007) as well as the entrance to social and democratic life is facilitated by a collective existence that develops in classroom and school community by knowing local and global environment. All this in a return to a more natural and simpler life for the restoration of physical, moral and intellectual balance as a guarantee of happiness (Caffo, 2017).

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Reading Practices and 'institutional habitus'. Pilot research on 19 to 20-year-old *liceo* graduates

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ABSTRACT: *The OECD-PISA 2018 survey, primarily focused on reading, highlighted how 15-year-old Italian students' overall scores were below the OECD average on tests aimed at assessing this competence. However, considerable differences emerged between the achievements of students attending licei, and those that studied in technical or, above all, vocational schools, where low SES teenagers are more frequently enrolled. Research has shown that school systems can help implement forms of more equal educational opportunities when they make the best educational tracks accessible to disadvantaged students. As a matter of fact, it is much more likely that the children of blue-collar workers attending schools alongside the children of white-collar workers will get a degree than those enrolled in educational paths alongside peers of their same social background. Pilot research – conducted on a limited number of cases utilizing the CAWI technique with 19 to 20-year-old liceo graduates from the Livorno and Pisa areas – seems to confirm the role played by the «institutional habitus» on reducing the influence of ascriptive variables, such as the educational qualifications of parents, on studying and reading practices. This small survey therefore highlights the positive effects of a generalist education as well as the need for overcoming an early tracking system that channels students to different schools on the basis of their social origins, thereby reproducing existing social inequalities.*

KEYWORDS: *reading habits, generalist education, liceo, institutional habitus, detracking.*

Introduction

At the turn of the millennium, Tullio De Mauro, commenting on data from the 2003 international ALL (Adult Literacy and Life Skills) survey, highlighted a lack of functional literacy skills among Italians (De Mauro, 2010). Later, the OECD-PIAAC (Programme for the International Assessment of Adult Competencies), conducted in 2011-2012 for the first time on an extended sample of adults between the ages of 16 and 65 (OECD, 2013; 2016), confirmed the existence of an extensive «Italy of ignorance» (Priulla, 2011), as the average score for literacy skills of Italian adults was below average among OECD countries.

Other international surveys that followed involving adults or 15 year-olds, like the OECD-PISA, highlighted the difficulties of Italians in using their native language. From the 2018 OECD-PISA survey (OECD, 2019) in particular, which focused primarily on reading, it emerged that the scores of Italian students (476 points) were below the OECD average (487 points) on tests aimed at assessing this competence.

However, the considerable difference between the scores achieved by students attending *licei* (521 points) compared with those studying in technical (458 points) and VET (Vocational Education and Training) schools (395/404 points) is noteworthy. In the *licei* the highest percentage (9%) of *top performers* – those that reached the highest levels of competence (levels 5 and 6) – was found along with the lowest percentage of *low performers* (8%) or those that did not attain the basic level of competence (level 2). In technical institutes the percentage of *top performers* drops to 2%, while 27% of students did not achieve a level 2. This level was not achieved by 50% of VET students.

These different results can primarily be explained by examining students' social background. International research (OECD, 2018; 2020) has long highlighted how students from economically disadvantaged families or with a low level of education encounter greater difficulties in three areas: in the possibility of enrolling in a certain level of education or specific path (access), in regularity, delays, transfers or drop-outs (process), and in the quality of outcomes and type of qualification obtained (results) (Triventi, 2015). Vj gug"lpgswcrk"gu"ctg"pqv"qprf "gxl" gpv"vgt"vecmf." tgi ctf kpi "ngxgru"qhg"gf wec"vqpcr"icej kxgo gpv."vj g" "ctg"cnuq"gxk" gpv"lp"vj g" j qtk qpvcnf kge"vqp"y kj "tgi ctf "vq"vj g" f krtgtgpv"uwwf { "r cvj u"cwgp"gf 0"kp" eqwpt"kgu"y kj "gctr" "vtcent"pi "u" ugo u." vj g" f krtgtgpv"v"vqp" qh' vtcent" ku" tgr qpuldr"rqt"cp"lpgswcrk" "k"gf wec"vqpcr"qr r qtwpk"kgu"vj g"v"gp"gf gpe" " qh"wr r gt/erc"u"r ctgpw"v"q"gp"tr"vj gk"ej kf tgp"lp"vj g"dgu"v"uej qqr"u" kxgu"tkug" vq" vj g" etgco "unt"o kpi " rj gpqo gpqp." c" uej qqr" f kxk"p"v"vqp " vj cv" etgc"v"gu"lpgswcrk" "dgw ggp"vj g"uwwf gpw"q"hf krtgtgpv"ugeqpf ct{ "uej qqr"0

In Italy, specifically, students that come from disadvantaged economic and cultural backgrounds are more likely to attend vocational or technical schools rather than *licei* (ISTAT, 2017; MIUR, 2019; Almadiploma, 2021). The early tracking that characterizes the Italian school system fosters unequal educational opportunities that are not offered on the basis of individual aptitude or merit but instead are closely related to a given students' social origins (Ballarino, Checchi, 2006; Ballarino, Schadee, 2006; 2008; Bottani, Benadusi, 2006; Brunello, Checchi, 2007; Barone, 2009; 2012; Barone et al., 2019; Checchi, 2010; Ballarino, Schizzerotto, 2011; Contini, Scagni, 2011; 2013; Azzolini, Ressa, 2014; Azzolini, Vergolini, 2014; Cataldi, Pitzalis, 2014; Romito, 2014; 2016; Barone, Ruggera, 2015; Parziale, 2016; Argentin et al., 2017; Barone et al., 2017; Barone et al., 2010; Borgna, Contini, 2019; Giancola, Salmieri, 2020).

Nevertheless, research has also shown that school systems can help implement forms of more equal educational opportunities when they make the best educational tracks accessible to disadvantaged students. As

a matter of fact, it is much more likely the children of blue-collar workers attending schools alongside the children of white-collar workers will get a degree than those enrolled in educational paths alongside peers of the same social background (OECD, 2017, 20).

In this sense, a generalist education could contribute to overcoming the current forms of social segregation present in Italian schools, though the risk of creating first-rate and second-rate schools on the basis of city district locations alone would likely remain high (van Zanten, 2009a; 2009b; Pitzalis, 2012).

This paper aims to exhibit data collected from pilot research on the reading practices of *liceo* graduates in 2020 from the Livorno and Pisa areas. Although this study merely constitutes exploratory research with ungeneralizable results, it does seem to confirm the ability of comprehensive systems to develop competences and create a beneficial «institutional *habitus*».

1. Theoretical framework and methodology

In order to better understand the active role that schools can play in overcoming inequalities of educational opportunity, some researchers have made use of several of Bourdieu's conceptual tools such as «capital», «field», «symbolic violence», and «*habitus*».

Recent studies on the concept of «institutional *habitus*» are particularly relevant in this regard (Reay, 1998; 2004; Reay et al., 2001; Ball et al., 2002; Tarabini et al., 2016; Gerosa et al., 2019; Romito, Antonelli, 2018 Romito, 2019), as they demonstrate how students shape their original *habitus* by adapting to the institutional *habitus* of the school they attend.

This collective *habitus* depends on the profile of the students, on the geographic position of the school, and on the specific organizational culture which varies according to the quantity and quality of economic, cultural, social and symbolic capital available. The institutional *habitus* also influences the transition to university studies and affects the social relationships established by students with their peers (Gerosa et al., 2019), which have long been considered an important factor for success in higher education (Tinto, 1975).

For the purposes of exploring the cultural consumption of *liceo* graduates and the role played by the institutional *habitus* of the *liceo* itself on reducing the influence of ascriptive variables, such as parental work and educational qualifications, on studying and reading practices, pilot research was conducted using the Computer Assisted Web Interviewing (CAWI) technique. More explicitly, a questionnaire was administered in March 2021 to a sample of 2020 *liceo* graduates from the Livorno and Pisa areas to which 121 responded.

The data collected during this first phase are limited and the sample is not representative of the universal set of *liceo* graduates in these provinces. Due to the COVID-19 pandemic, it was not possible to obtain

written consent from the students which would have allowed us to contact them all. As a consequence, only those *liceo* graduates with email addresses acquired from a project on university orientation carried out by the Department of Political Science at the University of Pisa were contacted. However, from these limited data some interesting trends do appear to emerge which may be further investigated in the future.

2. The cultural consumption practices of *liceo* graduates surveyed

The questionnaire administered to the sample of *liceo* graduates included questions on different types of cultural consumption considered typical of 19 to 20-year-olds. However, here it was chosen to examine responses to questions on reading habits.

Preliminarily the question «to what activity do you dedicate most of your free time? (up to three answers may be chosen)» was asked. Here the effects of the COVID-19 pandemic on the habits of 2020 graduates emerged from the responses to this question. Choices like «listening to live music», «going to the cinema», and «going to the theater» received zero responses and could not have been otherwise given the containment measures put in place by the Italian government. These options were included in the questionnaire in order to verify whether the responses given could be considered reliable or were merely random. The responses selected the most were «going out with friends or partner» (n. 43), «chatting online, using social networks» (n. 50), and, above all, «studying» (n. 87).

The prevalence of the selection «studying» was due to the fact that most *liceo* graduates also stated they were enrolled in university. In response to the question «Which of the following alternatives matches your current condition?» 81% of them declared themselves to be full-time university students, 8% claimed they were university students who worked in their spare time, and 1% affirmed they worked and were studying at university in their spare time.

In this sense, the tendency of *liceo* graduates to continue their studies, suggested by national surveys, was confirmed. According to Almadiploma, *liceo* graduates declaring their intention to enroll in university in 2020 were 81% while those claiming they would continue their studies and work at the same time were 7.9% (Almadiploma, 2021, 67). Although Almadiploma only measured *liceo* students' post-diploma perspectives, and our questionnaire was answered by graduates that had actually enrolled in university for the most part, the data are virtually identical or only diverge slightly.

The reading choices of *liceo* graduates from our sample appear to mainly be connected to studying and web use, indicated by responses to the question «What do you read primarily? (up to three answers may be chosen)». The items with the highest number of responses were: «comments on social network sites» (n. 65), «online news» (n. 90), and

«reading paper books» (n. 88). Only a handful claimed to read paper newspapers (n. 7), a habit that is becoming increasingly residual in other age cohorts as well (ISTAT, 2020).

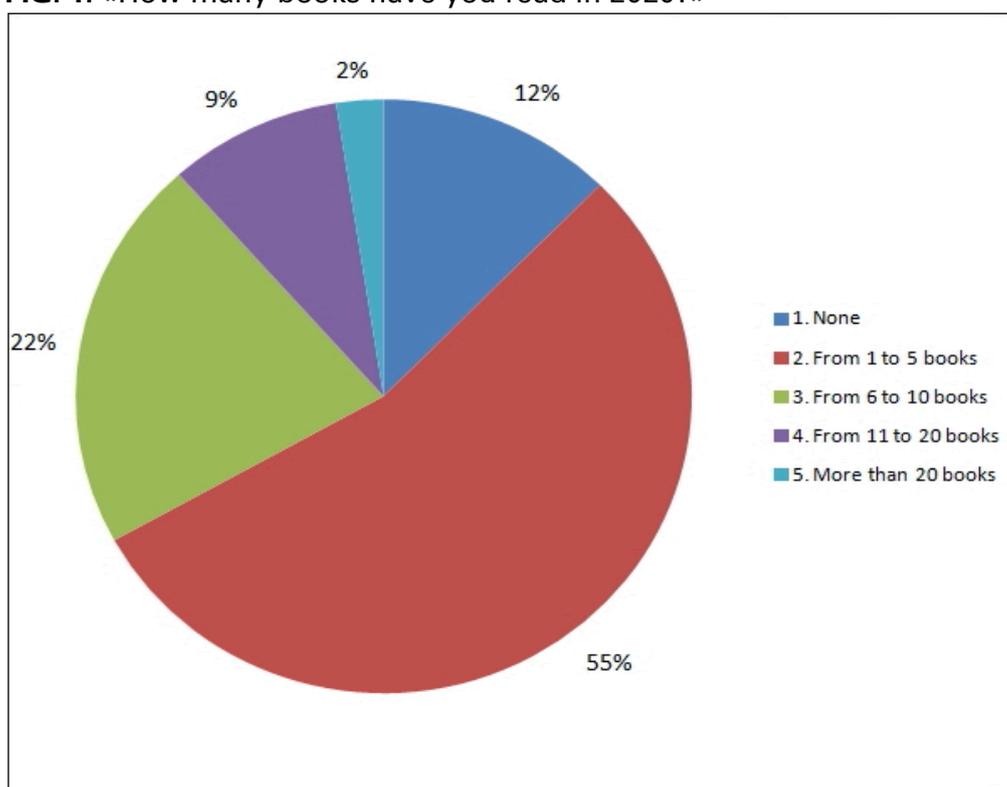
Beyond habits that depend on study needs, when asked about their reading preferences a majority of *liceo* graduates (54%) stated they prefer reading paper books while 30% declared they like reading the news.

The effects of the COVID-19 pandemic on their habits also emerged in response to the question «What news do you read most often? (up to three answers may be chosen)» where *Liceo* graduates responded they read pandemic news (n. 56), political news (n. 63), and cultural news (n. 70) more often.

In terms of the number of books read in 2020, a majority of graduates in our sample (55%) indicated that they read one to five books beyond what is required for school or university. 22% declared reading 6 to 10 books, and 9% stated they read from 11 to 20 books. However, a large percentage of *liceo* graduates (12%) declared they did not read any books (Fig. 1).

Despite the significant number of non-readers, when compared with the ISTAT data, the results seem to confirm that *liceo* graduates read more books on average than their peers. According to ISTAT (2021) in 2019, 55.9% of 18 to 19-year-olds and 50.5% of 20 to 24-year-olds read at least one book beyond school or university books. Though the data are not perfectly comparable, 88% of *liceo* graduates from our sample read at least one book which is a much higher percentage than the national trend.

FIG. 1. «How many books have you read in 2020?»



This inclination towards reading also emerged from the fact that almost all the respondents to the questionnaires were able to indicate the title and author of the last book they had read as well as that of their favorite title.

3. The books preferred of *liceo* graduates surveyed

Examining responses to the question «What is the book you have read that you liked most?» it is interesting to note the different titles belonging to a wide range of genres indicated by the *liceo* graduates. This would seem to confirm the hypothesis of sociologists of literature that a traditional canon of reading no longer exists, especially among young people (Rondini, 2002). Although the classifications below have many limitations, as some books are difficult to define, the volumes mentioned by the graduates surveyed can be grouped into the following categories:

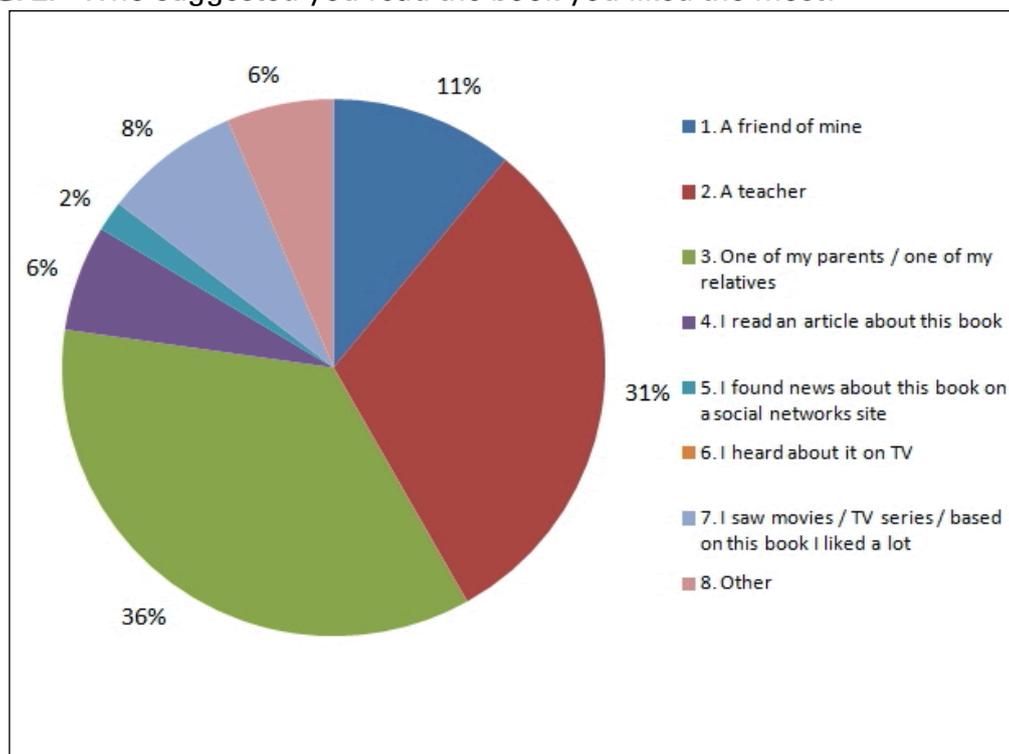
- Classics (e.g. E. Brontë, F. Dostoevskij, N.V. Gogol', G. Orwell, F. Kafka, M. Bulgakov, L. Pirandello, I. Svevo, J. Saramago, H. Hesse, Roth, O. Sacks)
- Political or civil engagement fiction (e.g. K. Hosseini, T. Ben Jelloun, A. Altmann, G. Catozzella)
- Children's or teenagers' fiction (e.g. F. Molnár, I. Calvino, D. Pennac, J.K. Rowling, R. Dahl, J. Green, S. Chbosky, L. Garlando)
- Crime fiction (e.g. A. Christie, S. King, J. Dicker, M. Bussi, A. Camilleri, G. Carofiglio)
- Science fiction (e.g. R. Bradbury, J. Dashner, V. Roth, S. Collins)
- «Consumer» fiction or paraliterature (e.g. D. Brown, K. Follett, J. Koch, S. Meyer, J. Moyes, F. Volo, S. Casati Modigliani, F. Bosco)
- Other fictional books (e.g. H. Yanagihara, Coelho, M. Barbery, H. Murakami, A. Golden, J.E. Williams, N. Ammanniti, A. Baricco, Giordano, Chiara)
- Poetry (G.C. Vivinetto)
- Political or civil non-fiction (e.g. Gandhi, E. Schloss, Levi, H. Lee, B. Vio)
- Other types of non-fiction (e.g. S. Hawking, J. Chozen Bays, M. Franceschini)

In general, the *liceo* graduates from our sample were interested in authors and genres that are rather different from one another, with a significant emphasis on fiction rather than non-fiction. They do not seem to express much interest in poetry. Only one respondent cited interest in a poetic collection, but may have done so more from an interest in the subject matter itself (the LGBT world) than from a particular interest in poetry.

The significant role played by the *liceo* itself on graduates' reading choices emerged from some of the books indicated which were part of the school curriculum. This was further underlined by responses to the question about who suggested their favorite book to them (Fig. 2); *liceo*

graduates responded «a teacher» (31%) almost as frequently as they indicated «parents or relatives» (36%).

FIG. 2. «Who suggested you read the book you liked the most?»



Classics like Orwell's *1984*, Pirandello's *Uno nessuno e centomila* and *Il fu Mattia Pascal*, Svevo's *La coscienza di Zeno*, Calvino's *Il barone rampante* and *Il cavaliere inesistente* were mentioned by *liceo* graduates as their favorite books recommended by teachers. But other less scholastic books, such as those by Hesse, Sacks, Roth, Hosseini, Sepúlveda, Giordano, Carofiglio, Ammanniti, were also suggested by teachers. These responses testify to the importance that public schools can have, not only in introducing teenagers to certain books or authors, but also in the social construction of taste.

4. The role played by family background

Research has already highlighted how the effects of parental background are weak in the context of a generalist education (Breen, Jonsson, 2000; Giancola, 2010; Benadusi, Giancola, 2014). This pilot research seems to confirm the scarce influence of some ascriptive variables in the *liceo* context.

First of all, there seems to be no correlation between the number of books read and the educational qualifications of a graduate's parents. Though some children of parents with a high school diploma or a higher degree stated they read more than ten books, which was different from the children of parents with only a middle school certificate, there were no

substantial differences in the reading consumption ranges from 1 to 10 books. Applying the Chi-squared test with the Yates' correction used for small sample sizes, a high probability that the two variables are not correlated to each other emerged, especially when the number of books read was compared to the father's educational qualifications (fig. 3).

FIG. 3. Number of books read compared with the father's educational qualifications

	1. Middle school certificate	2. High school diploma	3. Bachelor's degree, Master's degree or PhD	Total
1. None	13.3	14.3	7.4	12.5
2. From 1 to 5 books	63.3	49.2	55.6	54.2
3. From 6 to 10 books	23.3	19.0	25.9	21.7
4. From 11 to 20 books	0.0	14.3	7.4	9.2
5. More than 20 books	0.0	3.2	3.7	2.5
Total	100.0 (n. 30)	100.0 (n. 63)	100.0 (n. 27)	100.0 (n. 120)

Yates p-value: 0.835¹

There also seems to be no correlation between the number of books read and the parents' work, though the probability of a lack of correlation is significantly lower in relation to the mother's work (Yates p-value: 0.426)² and much higher when compared to the father's work (fig. 4).

FIG. 4. Number of books read compared with the father's workplace competence level

	Unemployed	Level 1	Level 2	Level 3	Level 4	Total
1. None	0.0	20.0	13.2	14.6	5.0	12.6
2. From 1 to 5 books	66.7	40.0	55.3	47.9	70.0	53.8
3. From 6 to 10 books	33.3	30.0	23.7	20.8	15.0	21.8

¹ Comparing the number of books read to the mother's educational qualifications, the Yates p-value is lower: 0.71. All the Yates p-values were calculated by Dr. Carlo Metta, whom I thank for his collaboration.

² The ISTAT classification of occupation by competence level – revised from the International Standard Classification of Occupations (Isco08) – was used here. The different types of work indicated by *liceo* graduates were recoded into the following four levels. Level 1: unskilled worker, manual worker; level 2: executive professions in the office, skilled workers; level 3: technical professions; level 4: highly skilled professions (for instance: director, manager, intellectual, or scientist).

4. From 11 to 20 books	0.0	0.0	7.9	14.6	5.0	9.2
5. More than 20 books	0.0	10.0	0.0	2.1	5.0	2.5
Total	100.0 (n. 3)	100.0 (n. 10)	100.0 (n. 38)	100.0 (n. 48)	100.0 (n. 20)	100.0 (n. 119)

Yates p-value: 0.986

By analyzing post-diploma choices, the parents' work and educational qualifications do not seem to affect the propensity of *liceo* graduates to continue their studies much. It may be noticed that the Yates p-value is lower in relation to the father's work (0.57) than the mother's (0.66). A lack of correlation between *liceo* graduates continuing their studies and their parent's educational qualifications appears more significant. The Yates p-value is 0.91 in relation to the mother's educational qualifications and 0.968 with reference to the father's.

These results merely offer a few clues that should be further verified given the small sample size unrepresentative of the universal set of students in the territorial areas investigated. In our sample for instance, girls were over-represented (72%) compared to the national average of female attendance in *licei* (62%) (Almadiploma, 2021), and it is well known that girls have both a higher propensity to continue their education as well as read more than boys on average. However, the data do seem to indicate a trend that would confirm the hypothesis of an institutional *habitus* within *licei* that acts in an equalizing manner with regard to studying habits and reading propensity.

Conclusions

The limits of this sample do not allow us to generalize the results, but this pilot survey offers some data that would be interesting to explore further.

Future research should involve a greater number of students in a representative sample of the entire set of *liceo* graduates in the Livorno and Pisa areas. It would be interesting to study in greater detail the reading habits of graduates from different *licei*, as they are likely to be dissimilar due to the fact that some study paths, such as the human sciences *licei*, are more frequently attended by disadvantaged students than others, such as the prestigious classical and traditional scientific *licei*. It would also be worthwhile to administer the questionnaire to graduates from the vocational and technical schools in order to compare the effects of different educational paths.

Though the data that emerge from this small survey do not assess the actual competences attained by the *liceo* graduates themselves, most of those involved in the pilot research were continuing their studies at university, a tertiary education level that requires a certain reading ability. Furthermore, the graduates in our sample did not seem to limit themselves to studying university textbooks alone, but claimed to read other texts,

especially paper books, and were able to indicate the title of their favorite book.

The role played by teachers in promoting reading generally, and some books in particular, also emerged from this pilot survey. The *Liceo* performs an active function in the social construction of teenagers' taste, and a significant portion of those surveyed admitted their favorite reading material was suggested by a teacher, in some cases even representing the primary opportunity for learning about some author's books.

Above all, the institutional *habitus* of the *liceo* seems to reduce the influence of ascriptive variables, such as the educational qualifications of parents, on the studying and reading practices of their students. In this sense, the pilot research would seem to suggest the positive effects of a generalist education as well as the need for overcoming an early tracking system that channels students to different schools on the basis of their social origins, thereby reproducing existing social inequalities.

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Helping My Romani Pupils also when They Do not Need it. A Research on Teachers' Benevolent Over-helping

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ABSTRACT: *This paper aims at observing how social inequalities among primary school pupils may be either reproduced or challenged by teachers' helping. A recently renewed tradition of observational studies convincingly showed how school routines may risk confirming the existing power inequalities among students. It overtly conflicts with declarations of the Italian Constitution, that school's responsibility is to remove all impairments opposing a full development of students' capabilities. Among the many facets of teacher-pupil relation, our research focuses on the primary school teachers' helping, assuming that, if teachers help pupils belonging to socially stigmatized groups even beyond their actual needs, their benevolent over-helping will implicitly signal to these children that they hold poor expectations from them. Theoretically, this idea is rooted in two research traditions. First, in his classic works Vygotsky described how children' development originates from their social interactions, when capable others help children to solve those problems that they cannot cope with autonomously, yet can successfully face when cooperating. Second, since the end of Seventies social psychologists have showed how helping strategies may either reinforce receivers' autonomy or lead them to become dependent from donors. More in particular, dependency-oriented help was proved to be used for those who are socially disadvantaged, to help them «to stay where they are» (Nadler and Chernyak-Hai, 2014), i.e. at the bottom of the social ladder. Merging these two influential research traditions, we tested the hypothesis that in primary school children of socially stigmatized groups could be helped by their teachers also for problems they can easily solve by themselves. To provide empirical evidence of this phenomenon's occurrence, and to enable teachers to perceive it, an original methodology was set in place. In a game simulation setting, dyads composed by one teacher and his/her pupil (aged 8-10 years, either belonging to the ethnic majority or to a Romani group) were invited to play a two steps game, where the child was asked to face a task of growing complexity and the teacher had to side with their pupil. Data show that when the task is complex, siding strategies chosen by teachers are the same for children belonging both to the ethnic majority and to Romani families. On the contrary, when the task is easy enough to be autonomously solved by the child, children issued from Romani families were more frequently helped beyond their actual need by their teachers. Finally, teachers received a video-feedback of their helping behavior, designed to increase their self-awareness about this bias towards disadvantaged children and to discuss with researchers on detrimental effects of benevolent over-helping. Observations during the video-feedback allowed to understand that*

oftentimes teachers were unaware of their over-helping towards Romani children, and more in general were not familiar with the concept of negative effects of over-helping.

KEYWORDS: *Over-helping, teacher-pupil helping relations, inequalities reproduction, socially stigmatized groups, primary school*

Introduction

In the field of social psychology on intergroup helping between structurally unequal groups, a large body of evidence (Nadler, 2020; Nadler, 2018; Nadler, Halabi, 2015; Abad-Merino et al., 2017) highlights how, when intergroup relations are made salient, helping behaviors between people belonging to different groups can either reproduce or challenge social inequalities currently characterizing intergroup relations. This perspective complements the interpersonal one, where helping behaviors are simply related to the donors' choice between giving or not giving a help and the recipient's choice between accepting or refusing it. In fact, considering social inequalities between groups, social expectancies are that donors will belong to dominant groups while recipients will belong to dominated groups. Moreover, also the kind of help applied by the donor could either challenge or reproduce current intergroup inequalities. In fact, when looking at the different kinds of help, a distinction between autonomy-oriented and dependency-oriented help needs to be drawn (Nadler, 1998). Dependency-oriented help consists of solving a problem for the needy, whereas autonomy-oriented assistance consists of giving recipients tools with which they can solve the problem on their own. According to this distinction, when recipients belong to socially dominated groups the donor can challenge current intergroup social inequalities using an autonomy-oriented help. On the other hand, the donor can reproduce current unbalance between groups by giving to recipients a dependency-oriented assistance. In a similar vein, receivers can either challenge or perpetuate social inequalities by accepting or refusing the helping proposals that are in line with social expectancies about their position of incompetent or needy people. This use of intergroup helping to reinforce social inequalities clearly emerges when donors belonging to a higher social status' group more frequently give to a lower status' recipients a help that makes them dependent (Nadler, 2020; Nadler and Chernyak-Hai, 2014).

All findings discussed until now mostly emerged from experimental studies, in which participants were adults unknown to each other, or even the other in need was only evoked during the procedure.

The aim of this paper is to apply to the school context the insights gained by previously discussed studies on social psychology of intergroup helping, by observing if also social inequalities among

primary school pupils may be either reproduced or challenged by teachers' helping. Together with these theoretical references to an emerging socio-psychological approach, the paper also aims to refer to a recently renewed tradition of observational studies, that convincingly showed how school routines may risk confirming the existing power inequalities among students. Such an occurrence, if proved, overtly conflicts with declarations of the Italian Constitution, that school's responsibility is to remove all impairments opposing a full development of students' capabilities.

Among the many facets characterizing teacher-pupil relation, our research focuses on the primary school teachers' helping, chosen as a particularly meaningful case study. In fact, the choice of this specific case study was based on the idea that at that age, teachers are secondary attachment figures that provide children with a sense of relational security (Ainsworth, 1989; Verschueren, Koomen, 2012) when they face their first difficulties at school (Little, Kobak, 2003; Thijs, Koomen, 2008). In this specific real-world context, helping provided by teachers to their pupils is a crucial object of observation, in order to capture how the individual development of the child is shaped by the school context in which it occurs.

Together with the already discussed distinction between autonomy-oriented and dependency-oriented help, used for helping relations among adults, a specific theoretical perspective has to be applied, related to adult-child cooperation, i.e. the theoretical assumptions on children development of Vygotsky. According to Vygotsky's perspective, intermental exchanges between adults and children are opening the door to the child's learning of new abilities. In fact, to use the Vygotsky's own words, «all the higher functions (of the human mind) originate as actual relationships between individuals» (Vygotsky, 1978, 57). More precisely, Vygotsky evaluated the cooperation between children and adults (or more capable peers) as crucial, if problems addressed are included in the *zone of proximal development (ZPD)* of the child. To use Vygotsky's own words, the ZPD is «the distance between the actual developmental level as determined by independent problem solving (of the child) and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers» (Vygotsky, 1978, 86). Adult-child interactions happening in the ZPD are therefore a transient interactive condition where teacher-student cooperation helps children to advance from capacities they fully master to their future achievements.

However, if we assume that – in line with results on intergroup helping – teacher could help pupils belonging to socially stigmatized groups not only cooperating with them for problems included in their ZPD, but also for problems that children already master, i.e. helping them beyond their actual needs, such a benevolent over-helping will implicitly signal to these children that teachers hold poor expectations from them.

All these theoretical perspectives taken together, the aim of this paper is to observe whether the teachers' helping behaviors can reproduce or challenge the social inequalities in the school context. To study such a context is of particular importance for the key role of the school in removing social inequalities, giving to every child the opportunity to develop his or her capabilities. To the best of our knowledge there are only few studies that observe how social inequalities may be either reproduced or challenged by teachers' helping among primary school pupils. These previous studies (e.g. D'Errico et al., 2011) demonstrated that, when interacting with socially disadvantaged pupils, primary school teachers are intrusive in children's spontaneous problem-solving and frequently give them a dependency-oriented help. The intrusiveness can occur even when the donor gives an excess of help, if compared with the receiver's actual needs. This kind of help that exceeds the receiver's actual needs can be defined as over-help (Leone, 2009), i.e. a help given when no help was required. Over-help can have negative consequences for the receiver because it indicates that donors either do not trust or do not recognize the receiver's capabilities. If it occurs in a teacher-pupil relationship, over-helping could be even riskier, especially when it is acted towards a child belonging to a socially stigmatized group. In fact, if teachers help pupils belonging to socially stigmatized groups even beyond their actual needs, their benevolent over-helping will implicitly signal to these children that their teachers hold poor expectations from them. Moreover, if chronically repeated, over-helping can make them dependent from donors, even in the future resolution of their problems. However, being primary school teacher's secondary attachment figure for children (Ainsworth, 1989; Verschueren, Koomen, 2012), their over-help can be read as a benevolent behavior, due to a misperception of pupils' need and a subsequent under evaluation of their autonomous competences. Hence, if the teachers perceive their pupils belonging to a socially disadvantaged group as needy and non-competent, they could prefer a kind of help that produces dependency and, in the long run, reinforces social inequalities (Leone and Nadler, in press).

Method

Hypothesis

Bearing in mind these theoretical perspectives, we put the hypothesis that primary school teachers will over-help their pupils when socially stigmatized so unwillingly reinforcing social inequalities among pupils. To operationalize this hypothesis, we assume that primary school pupils belonging to a socially stigmatized group will be helped by their teachers beyond their actual needs, during easy games that children could have faced autonomously.

Participants

The participants who took part to this study were 4 teachers at a primary school in Rome, all woman, and 14 children chosen among their pupils, 7 Italian and 7 Romani, with an age ranging between 8 to 10 years old. Hence, the study involved two social groups' pupils: the ones belonging to the ethnic majority and the ones belonging to Romani families. This second group choice is due to their social representation; in fact, Romani represent a good example of a disadvantaged and stigmatized social group.

After a first dyadic interaction with an Italian pupil, used as a warm-up, during the experimental procedure each teacher played, at least, with one Italian and one Romani pupil. The order of interactions was counter-balanced.

Procedure and instruments

To test our hypothesis, we used a two-stages methodology: in the first stage, we set in place a dyadic simulation game to be jointly played by teacher and pupil. In the second stage, teachers were presented with a video-feedback methodology.

The simulation game

After asking teacher and her pupil to seat at a table together, the researcher proposed to the child to play a simulation game together with his or her teacher. As in every simulation game methodology, both teacher and child were instructed to play the game as themselves, without acting a role. Telling them a fictional scenario based on the movie «Finding Nemo», the researcher assigned different tasks to the two players: the child was the main character and the hero of the story and must rescue Nemo, while the teacher simply had to side the child during his or her adventure. Moreover, the scenario allowed the researcher to contextualize and to present to the teacher-pupil couple the two different games that composed the entire simulation game. In fact, the simulation game required to each dyad to solve two increasingly difficult games: the first one was the simpler one and the child could solve it alone, while the second one was more complex and required the teacher's help. Therefore, game 1 allowed to observe the child's autonomous problem solving and game 2 to observe the cooperation between teacher and child for a problem lying in the child's *Zone of Proximal Development* (Vygotsky, 1978). The first game was a simple puzzle, where the child had to fit together only few pieces to find Nemo's message; the second and more complex one was the building of a Lego boat. The boat was partly built and the child had to complete the construction. It means that for the first game the child only needed to be sided, while in the second game the child needed to be supported or helped by his or her teacher, due to the higher difficulties of this game. Both the games were proposed partially solved, asking the child to end them by following the guide image for the puzzle and the instructions book for the Lego boat, both

provided with the games. At the resolution of the second game, the simulation game was declared successfully closed by the research, congratulating the pupils for the happy ending of their adventure with Nemo.

The video-feedback

Each dyadic simulation game was overtly videotaped. Therefore, in the second stage of this methodology, it was possible to individually present each teacher with a video-feedback of her helping behaviors. Allowing them to appreciate some relevant features of their helping interactions, this methodology gave to the teachers the opportunity to observe themselves when helping their pupils and to discuss together with the researcher on their helping interactions with the different children. To lead teachers' reflections, the researcher showed first the positive behaviors and then the critical ones (i.e. the over-helping ones), giving also the opportunity to imagine how they might alternatively behave. This stage aimed at making teachers more conscious of their over-helping behaviors, if any.

The observational grid

The videotaped dyadic simulation games were analyzed by two independent judges applying an observational grid. To verify the agreement between the two judges, the Cohen's Kappa index was calculated, proving a substantial agreement ($K=.67$). The applied observational grid detected three main teacher's macro-behaviors: (i) the *affective siding behaviors*, that include all teacher's supportive and affective behaviors (i.e., smiling to the child), (ii) the *instrumental help*, that include each behavior with which the teacher gives to child a key to reach the solution (i.e., explaining to the child the strategy to solve the game), (iii) the *executive help*, that include all the behaviors with which the teacher replaces the child (i.e., building the Lego boat in the place of the child).

The observations collected with the observational grid were then classified as *Encouragement*, *Help* or *Over-help*, depending on the difficulty of the game (Table 1). In fact, in the first game, autonomously solvable for the child, both the instrumental and the executive help can be read as over-help, since children can cope with the task by themselves, while in the second and more complex game only the executive help is classified as over-help, because the teacher's instrumental help is necessary for the child to reach the game resolution.

TAB. 1. Classification of teachers' behaviors according to the game.

		<i>Game 1</i>	<i>Game 2</i>
<i>Teacher's Behaviors</i>	<i>Affective siding</i>	Encouragement	Encouragement
	<i>Instrumental help</i>	Over-help	Help
	<i>Executive help</i>	Over-help	Over-help

Results

The data collected through the observational grid were analyzed applying a Fisher's exact test showing a significant difference between children of advantaged or disadvantaged groups only for the Game 1. In fact, during this easy game, Romani pupils received more over-help by their teacher than the Italian ones (Fisher's exact test (115) =6.546; $p=.035$). We remind that this simpler game required no teachers' helping behaviors but just some affective support. Moreover, it is interesting to observe the clear difference in the percentage of executive help provided by teachers during the first game to the two groups: the executive help is given only to Romani (14.6%), while the Italian pupils do not receive any (Table 2). For the second and more complex game, data highlight an increasing rate of both teacher's siding and helping behaviors towards all pupils (Table 3). Moreover, there are no significant differences for the help provided to Romani children.

TAB. 2. Percentage of teachers' between groups behaviors (Game 1).

	<i>Italians</i>	<i>Romani</i>
<i>Affective siding</i> (Encouragement)	72,7%	67,1%
<i>Instrumental help</i> (Over-help)	27,3%	18,3%
<i>Executive help</i> (Over-help)	0%	14,6%
<i>Total</i>	100% (33)	100% (82)

TAB. 3. Percentage of teachers' between groups behaviors (Game 2).

	<i>Italians</i>	<i>Romani</i>
<i>Affective siding</i> (Encouragement)	60,2%	50,3%
<i>Instrumental help</i> (Over-help)	23,9%	28,0%
<i>Executive help</i> (Over-help)	15,9%	21,6%
<i>Total</i>	100% (88)	100% (296)

Discussion

Data seem to suggest that the primary teachers' helping behaviors could reproduce social inequalities. Hence, even in the meaningful context of the primary school -- to which the society gives the mission of resetting social inequalities, giving to every child the same opportunities to develop his or her capabilities --, the teachers' helping behaviors reinforce the existing inequalities, as it occurs in the intergroup helping between adults belonging to unequal social groups. So, according to

Nadler and Chernyak-Hai (2014), even in school the intergroup helping could be seen as a help making disadvantaged children «*to stay where they are*». This is a particularly worrying evidence, if we consider that school is the social agency appointed to remove the impairments and if we bear in mind the negative consequences of intergroup helping, such as the dependency from donor. Moreover, data show that teacher's choice to provide to their socially disadvantaged pupils is an over-helping since they help children when they did not need any cooperation. So, in the situation where no help is needed (i.e. the first and autonomously solvable game) over-helping is provided to Romani pupils while, when the task is complex and requires some helping interactions, the helping strategies chosen by teachers are the same for children belonging both to the ethnic majority and to socially disadvantaged group. This can prove teachers' capability to grasp the higher difficulties of the second game to which they answer adapting and increasing their helping and supportive behaviors for all their pupils. On the contrary, the over-help only provided to socially disadvantaged pupils can be considered the consequence of the underestimation of the autonomous capacity of these children. This could suggest a misperception of the zone of actual development (Vygotsky, 1978) of the socially disadvantaged pupils. Hopefully, in the second step of the methodology, teachers have an occasion to recognize their misperceptions of the actual ZPD of the more disadvantaged pupils.

Conclusions

Our observations seem to suggest that over-helping can be an unconscious way to reinforce social inequalities even in primary school. It is important to underline that this intergroup helping can be enacted in an unaware and benevolent way, since being the result of a bias linked to a misperception of the abilities already mastered by these socially disadvantaged children. Such an unawareness seems to be confirmed by a preliminary analysis of the teachers' comments on video-feedbacks, showing that teachers were surprised by their own over-helping and, more in general, were not familiar with the idea that help could also lead to negative effects. However, a more in-depth analysis of these participants' reactions to video-feedbacks seems in order. Another limitation of this study is the small sample size. It would be useful to replicate this study with a bigger sample, to confirm the regularity of the emerging of the over-helping phenomenon towards socially stigmatized children. It would also be interesting to replicate the study in a different cultural context to verify that the phenomenon could not be linked to cultural variables.

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Dropping Out, Getting Poor? Early-School Leavers and Economical Entrapments

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ABSTRACT: *Reducing the rate of early school leavers (ESLs) from education and training is a key goal (European Commission 2010), especially in Italy where the phenomenon is still widespread. Focusing on recent school leavers studies in Italy, we compare various indicators for youth labour market exclusion and insecurity which are based on the INAPP-PLUS (Participation, Labour, Unemployment, Survey) 2018 wave. The analysis highlights the situation on the labour market around three main key topics – labour market exclusion, monthly net wages and risks of poverty – affecting multiple generations of early-school leavers aged from 25 to 49. Findings suggest that the abandon of school before completing upper secondary education is conducive to economic poverty.*

KEYWORDS: *Early school leavers, Unemployment, Poverty, Italy.*

Introduction

In line with the 2030 Agenda for Sustainable Development Goals (SDGs), adopted by all United Nations Member States in 2015 and providing a shared blueprint for peace and prosperity for the people and the planet, the European Commission is promoting a series of initiatives to help the most vulnerable segments of the population to close the gap to the less disadvantaged segments. With reference to young people, reducing the rate of early school leavers (ESLs) from education and training (young people who have dropped out of education with only lower secondary education or less) represent a key goal. Reducing the number of ESLs to less than 10% of the relevant population by 2020 was also a headline target in the Europe 2020 strategy and one of the five benchmarks of the strategic framework for European cooperation in education and training.

Despite a considerable effort in terms of educational and inclusion policies that have characterized programs and interventions in the Italian schools, the frequency of early school leaving in Italy is still relevant and is higher than in most other European countries. Rates of dropping out have steadily declined during the Nineties and in the following years, but the phenomenon is still worrying so much so that Italy still displays higher rates of early school leavers (EUROSTAT, 2020).

The Italian education system is based on compulsory education given for at least 10 years which covers the age group between 6 and 16 years. The fulfilment of the compulsory education is aimed at achieving an upper secondary school certification of two years by the age of 18. After successfully completing primary education (ISCED level 1), all students progress to lower secondary level (ISCED level 2) where they follow the same general common core curriculum. The final two years of compulsory education correspond to the first two years of the upper secondary school which in total amounts to five years. Therefore, compulsory education system implies a common core curriculum provision which lasts from the first year of primary school and ends at the first examination occurring after three years of lower secondary school. But compulsory education continues afterwards, when students choose the upper secondary track among three differentiated educational provisions: 1) *liceo*, 2) technical or 3) professional school where they have to complete at least two school years in order to cover the compulsory period. Due to such a structure – a compulsory period falling in the middle of the upper secondary education – the Italian education system stands as atypical among the European ones. Almost all Italian students use to proceed on further three years of upper secondary education in order to achieve the final exam and obtain the State certificate. Once they achieve the upper secondary qualification, they can enrol at tertiary education provided by universities, no matter the school-track they attended. Alternatively, after the lower secondary school, students may opt for Vocational Education and Training courses lasting at least three years upon which Regions have exclusive legislative competence and provide specific curricula related to local labour market's needs (*Istruzione e formazione professionale*, IFP). In the latter case, student will not be allowed to enrol at university.

As mentioned before, when entering the upper secondary cycle, students choose among *liceo*, technical school, and professional school. The *liceo* is historically conceived to develop general education and to prepare students to higher-level studies providing them with adequate competences and knowledge, as well as cultural and methodological skills: students already motivated to access to tertiary education are very likely to opt for a *liceo*, studying one among six curricula (Sciences; Classical studies; Human sciences; Arts; Languages; Music and dance). Technical schools offer technical and applied education and provides students with a scientific background in the economic and technological professional sectors. Professional schools offer vocational education and provide students with a vocational background in the sectors of services, industry and handicraft. They are conceived to anticipate access to the labour market.

Traditionally, vocational training does not play a big role in the Italian educational system because, apart from institutional intentions, the strong labour-market orientation is not actually guaranteed to all participants.

Considering the structures of the Italian education system, its compulsory system and students' habits, early school leaving in Italy can be considered as abandoning education at two moments: before completing compulsory schooling (low secondary school-8 years in education) or before completing compulsory education (including vocational training-10 years of education). This double kind of early school leaving applies since a great majority of students enrol in upper-secondary education (Contini, Scagni, 2013), choosing one of the tripartite-track system or vocational training which are mandatory for the first two years. As a matter of fact, rates of students completing the low secondary schools have been surging along the last decades reaching almost the saturation level, while rates of students completing the 10 years compulsory education, even if rising during the last 20 years, are still above the 90%. In this analysis, however, we distinguish Early-Early School Leavers (EESL) i.e., the ones attaining lower secondary certificate and then dropping out studies, and Early School Leaving (ESL) i.e., the ones enrolling in upper secondary cycle but leaving before completing studies and attaining a diploma.

The aim of our analysis is to understand how early school leaving increases the risks of falling into economic poverty for the Italian population. To pursue this goal, we have developed a series of statistical elaborations that allow to differentiate poverty risks according to age groups and the two types of school dropout: EESLs and ESLs.

The phenomenon of early school leaving is worrisome, not only for its high economic costs in terms of wasted skills, but also because it can exacerbate social inequalities. Students from low social strata run a greater risk of dropping out of school because their families are less equipped with economic, social, and cultural resources that can counteract school disengagement processes (Chen, Gregory, 2009). Students who drop out of school and therefore enter the labour market without an upper-secondary qualification tend to experience difficulties in transitioning to their first job (Solga, 2002), in later labour market integration (Gesthuizen, Scheepers, 2010), and in other life-course domains, such as health and civic citizenship. Hence, early school leaving constitutes an additional penalty for students who are already disadvantaged by their socio-economic background. Especially in Italy, not having obtained any kind of upper-secondary qualification represents a serious drawback for young people: lower educated youth experience more volatile employment trajectories (Struffolino, Raitano, 2013) and they are disadvantaged in the long run in terms of both future wages and career perspectives (Schizzerotto, 2002). Key research proves that there is a strong link between early school leaving and NEET status, that is individuals who leave education before and without attaining an upper secondary diploma are more likely to be neither in employment nor in education nor in training education in the forthcoming years. In those cases, school-to-work transition is a very tricky step because young people have to face many obstacles due mainly both to the lack of formal

work experience and poor competences. The more prolonged the NEET period, the stronger the negative consequences on the individual's future career prospects, increasing the levels of educational and skill mismatches. In 2020 by far the highest rates of NEETs were recorded in Italy and Greece, where a quarter or more of all young people aged 20-34 were neither in employment nor in education and training (29.4 % and 25.9 % respectively). Furthermore, the risk of remaining trapped in the NEET condition is very high for early school leavers. In 2017, in Italy, the number of ESLs becoming NEET was seven out ten among women and about 45% among men (Borgna, Struffolino, 2017).

Young people from a disadvantaged background or with special educational needs are over-represented amongst early school leavers. At the same time, early school leavers in later life are exposed to heightened risks of unemployment, poverty and social exclusion. Therefore, early school leaving is a predictor for poverty and the evidence that poverty and exclusion tend to reproduce over time via inter-generational dynamics. In EU countries individuals with less than primary, primary and lower secondary education (ISCED levels 0-2) are almost four times likely to be at-risk-of-poverty than the ones with tertiary education (ISCED levels 5-8). In Italy the proportion is lower – being the risk of tertiary educated people relatively higher in respect to other EU countries – but during the last decade the ratio has shifted from 3,2 to 3.8 and the at-risk-of-poverty rate of the population with less than primary, primary and lower secondary education has been surging from 26,7 to 30,3 (see Table 1).

TAB. 1. At-risk-of-poverty rate by educational attainment level. People aged from 18 to 64 years.

Country	Education	2011	2012	2013	2014	2015	2016	2017	2018	2019
EU 27 countries	ISCED 0-2	26,5	27,3	28,4	30,6	30,8	31,5	30,6	30,4	29,4
	ISCED 5-8	7,1	7,5	7,5	8,0	8,0	8,1	8,2	7,9	7,6
	Proportionality	3,7	3,6	3,8	3,8	3,9	3,9	3,7	3,8	3,9
Denmark	ISCED 0-2	12,7	16,7	15,3	12,7	17,0	15,4	18,7	18,0	18,7
	ISCED 5-8	8,5	7,9	8,7	9,1	9,5	10,1	11,2	11,2	10,0
	Proportionality	1,5	2,1	1,8	1,4	1,8	1,5	1,7	1,6	1,9
Germany	ISCED 0-2	27,9	27,1	27,8	32,0	32,7	33,2	33,0	31,7	29,2
	ISCED 5-8	8,0	8,6	9,5	10,7	10,1	9,2	10,9	10,0	8,2
	Proportionality	3,5	3,2	2,9	3,0	3,2	3,6	3,0	3,2	3,6
Greece	ISCED 0-2	31,9	35,7	36,4	36,4	34,9	34,9	34,1	31,9	30,9
	ISCED 5-8	7,2	10,1	9,5	9,1	10,3	11,0	10,0	9,2	8,2
	Proportionality	4,4	3,5	3,8	4,0	3,4	3,2	3,4	3,5	3,8
Spain	ISCED 0-2	25,8	28,0	29,5	33,8	34,2	34,5	32,7	33,3	30,7
	ISCED 5-8	9,6	9,0	8,8	10,9	10,3	10,7	10,0	9,8	10,5
	Difference	2,7	3,1	3,4	3,1	3,3	3,2	3,3	3,4	2,9
France	ISCED 0-2	21,3	22,8	24,9	24,7	24,2	23,7	23,6	22,9	24,0
	ISCED 5-8	7,1	7,5	7,4	6,8	6,7	6,6	6,6	6,5	6,8
	Proportionality	3,0	3,0	3,4	3,6	3,6	3,6	3,6	3,5	3,5
Italy	ISCED 0-2	26,7	27,3	27,6	28,6	29,0	31,0	30,5	30,4	30,3
	ISCED 5-8	8,3	7,9	7,6	9,3	8,7	9,5	9,5	9,4	8,0
	Proportionality	3,2	3,5	3,6	3,1	3,3	3,3	3,2	3,2	3,8

Poland	ISCED 0-2	33,4	33,4	32,5	35,6	37,3	36,4	29,7	31,5	29,5
	ISCED 5-8	4,7	4,8	4,9	4,4	5,3	5,3	5,2	4,8	6,0
	Proportionality	7,1	7,0	6,6	8,1	7,0	6,9	5,7	6,6	4,9
Portugal	ISCED 0-2	19,9	20,6	24,0	26,1	26,0	26,3	25,7	23,9	23,9
	ISCED 5-8	2,5	3,6	4,0	5,4	5,4	5,0	4,9	4,9	5,1
	Proportionality	8,0	5,7	6,0	4,8	4,8	5,3	5,2	4,9	4,7
Sweden	ISCED 0-2	20,1	21,3	24,9	25,2	26,5	29,0	28,7	29,7	32,1
	ISCED 5-8	10,7	11,4	11,0	10,7	12,3	11,6	10,1	10,4	11,9
	Difference	1,9	1,9	2,3	2,4	2,2	2,5	2,8	2,9	2,7
United Kingdom	ISCED 0-2	24,9	24,5	23,4	23,8	23,6	20,7	28,5	27,7	-
	ISCED 5-8	8,8	8,8	8,7	8,6	9,2	9,8	9,0	10,4	-
	Proportionality	2,8	2,8	2,7	2,8	2,6	2,1	3,2	2,7	-

Source: Authors' elaboration on EU-SILC survey data (ilc_li07). At risk of poverty rate (cut-off point: 60% of median equivalized income after social transfers).

1. Data and methodologies

According to the European Commission (2013a, 3), the definition of early school leavers applies to «the proportion of the population aged 18-24 with only lower secondary education or less and no longer in education or training». This definition is measured by looking at 'the percentage of 18–24-year-olds with only lower secondary education or less and no longer in education or training. Or put differently, it includes youngsters who did not attain an upper secondary education degree (ISCED 3). In our analyses on Italian links between school dropping out and getting poor trajectories we have nonetheless extended the population to be considered as early school leavers. Since the Italian education system provides that secondary education ends at the age of 18 with the final examination and the corresponding diploma or with two or three years of vocational training after the completion of lower secondary school, we have identified the Early-Early School Leavers (EESLs) as the ones who drops out studies before or just after attaining lower secondary certificate and the Early School Leavers (ESLs) as the ones who do enrol in one of the three upper secondary school-tracks – general (*liceo*), technical or professional institutes – but the drop out without completing the cycle up to the diploma.

Our analysis highlights the situation of Italian former EESLs and ESLs now aged from 25 to 50 on the current labour market around three main key topics – exclusion from employment, insecure employment and low-profile jobs. We compared indicators for youth labour market exclusion based on the PLUS (Participation, Labour, Unemployment, Survey) 2018 survey wave, which was carried on by INAPP on a large sample of individuals and allowing a joint analysis of individuals' education and family background, their past trajectories into education and labour market outcomes. The statistical survey, which was launched in 2005, is carried out on a sample of 45,000 individuals aged from 18 to 74 and aims to grasp specific aspects of the Italian labour market, such as the entry of young people into employment, the prolongation of the working life of

old age groups, the female participation in the labour market and social and cultural characteristics of employed, unemployed and inactive population seeking employment.

The survey aims also to learn about changes in employment status and lifelong trajectories. Among the main features of the survey, it is noteworthy the absence of proxy respondents, that is to say that the answers are provided directly and exclusively by the interviewee; the presence of questionnaire modules dedicated to each job-contract case with specific questions administered selectively; the possibility of analysing these indicators together with variables not available such as income (from work and family), education and family background of individuals, local services, health, etc.; the complete coverage of population and in particular of all persons employed; the longitudinal structure of the survey which allows flow analyses to be carried out between different conditions (not only in employment).

We have extracted the Italian population aged between 25-49 from the overall sample and then divided into three age groups: 25-29, 30-39, 40-49. We then obtained a variable aggregating the two types of school leaving, EESL and ESL. Finally, via a Principal Components Analyses (PCA), a metric measure of social origin was elaborated. It held together respondents' fathers and mothers education attainment and occupational status. Data elaborations include several explorations through bi and tri variate analysis, analysis of variance and a logistic regression.

2. Early and Early-Early School Leavers diffusion and effects

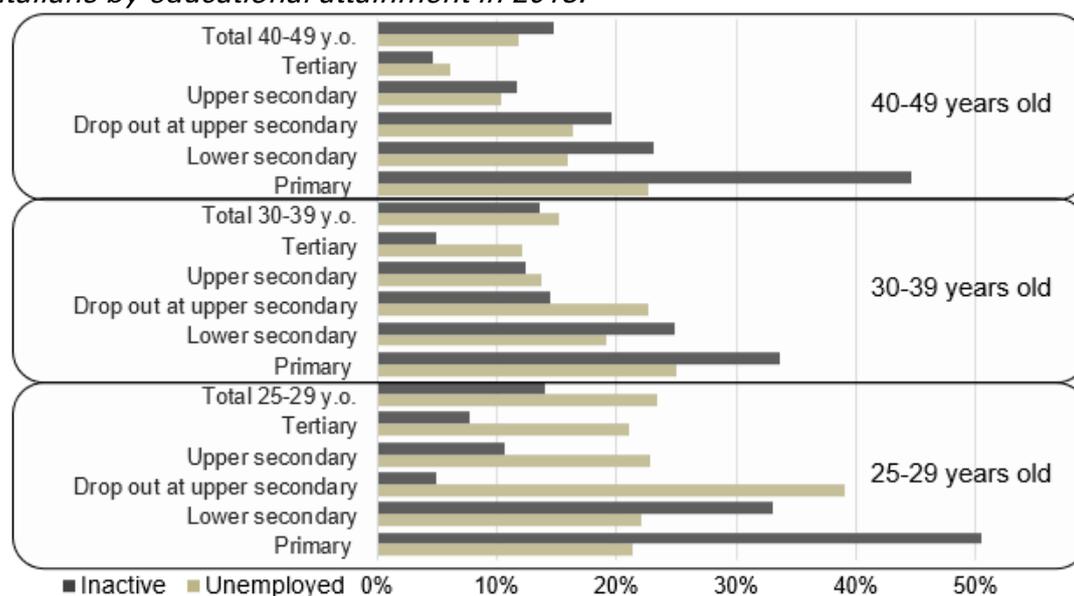
The Italian phenomenon of early school leaving has shrunken over time, although it remains high in the younger age group. Distinguishing it into two types – Early-Early School Leaving (EESL) and Early School Leaving (ESL) – we can observe from Table 2 that the rate of this latter has remained constant over time: while the EESL rate sensibly decreases from older to younger generations, there still exists a 7% circa of students dropping out at upper secondary school.

As it could be expected, early school leaving has a negative impact on careers in the labour market (Coles et al., 2002; Furlong, Cartmel, 2004; Dale, 2010; Gesthuizen, Scheepers, 2010; Ballarino et al., 2011; Borgna, Struffolino, 2019). That is especially evident in the Italian case: unemployment rates are very high among ESLs aged 25-29 (39,5%) and among EESLs aged 25-29 and 30-39. At the same time, discouragement explains the very high share of inactive individuals among EESLs aged 25-29.

TAB. 1. *Early school leaver rates in Italy in 2018.*

	Age		
	25-29	30-39	40-49
Primary	1,5	0,6	1,0
Lower secondary	17,1	22,6	30,7
Drop out at upper secondary	6,8	7,0	7,1
Upper secondary education	51,7	44,0	42,8
Tertiary	22,6	25,7	18,3
Total	100,0	100,0	100,0

Source: Authors' elaboration on INAPP-PLUS survey data.

FIG. 1. *Unemployed and inactive rates among 25-29, 30-39 and 40-49-years old Italians by educational attainment in 2018.*

Source: Authors' elaboration on INAPP-PLUS survey data.

Researchers who have analysed the determinants of early school leaving attach importance to both the so-called «push factors» which drive students out of the school system (Rumberger, 1987; Doll et al., 2013) and the so-called pull factors, such as job proposals which, although low-skilled and often from informal or family economic activities, encourage school abandonments. In both cases, at the heart of the explanations are families and parents with their (scarce) economic, cultural and social resources: a low education of parents is one of the most incisive predictors of early school leaving. The likelihood of leaving school is also closely related to financial constraints in the family of origin, the result of low family incomes (Alfieri et al., 2015), of unemployment of both parents or still of very strong links with informal or opaque networks and activities.

Relying on data from the INAPP-PLUS 2018 which had respondents asked for the reasons for school leaving and a multiple predefined response mode, we can aggregate «job opportunity» and «personal problem or family needs» as pull factors and «study performances were very poor» and «the course of study was not attractive» as push factors

(see Table 2). It seems that Italian ESLs assign greater emphasis on pull factors as determinants of their decision to leave education, being «Job opportunity» the most chosen reason. However, one ESLs out of three declared that among the reasons for leaving education the fact that the course of study was unattractive had an impact.

TAB. 2. *Reasons for school leaving (multiple response mode) among 25-29, 30-39 and 40-49-years old Italians in 2018.*

	<i>Age</i>		
	25-29	30-39	40-49
Job opportunity	45,7	49,7	51,7
Personal problem or family needs	28,5	33,2	38,3
<i>Pull factors</i>	74,2	82,9	90,0
Study performances were very poor	19,1	17,9	17,5
The course of study was not attractive	33,6	29,8	28,0
<i>Push factors</i>	52,7	47,7	45,5

Source: Authors' elaboration on INAPP-PLUS survey data.

Justification for leaving school during upper secondary cycle relies on personal ex-post motivations and therefore we cannot completely trust it to understand the actual mix of reasons for dropping out (European Commission, 2013b). Even if in all three age groups the most recurring motivation is that job offer was received at the time of school leaving, we must be cautious about and rather consider that the students were forced to seek for a job and eventually got an informal one. In contrast to other European countries, in Italy employment in the informal economy is substantial, reaching the 12.2% of the national employment rate.

Among the youngest age group (25-29) – whose memories and representations of the past sounds more plausible – social origins (measured via an Index obtained through a Principal Component Analyses of fathers' and mothers' educational attainments) exert a relevant influence on the type of reason which ignited the choice to leave education. The lower the Index, the higher the odds that the reasons for leaving was a job offer as it can be noted from Table 3.

TAB. 3. *Reasons for school leaving by age group and average cultural index of respondents' parents in 2018.*

	<i>Age</i>			<i>Average</i>
	25-29	30-39	40-49	
Job opportunity	-0.814	-0.511	-0.189	-0.505
Personal problem or family needs	-0.314	-0.323	-0.050	-0.229
Study performances were very poor	-0.559	-0.199	-0.159	-0.306
The course of study did not attract	-0.434	-0.130	-0.295	-0.286

Source: Authors' elaboration on INAPP-PLUS survey data.

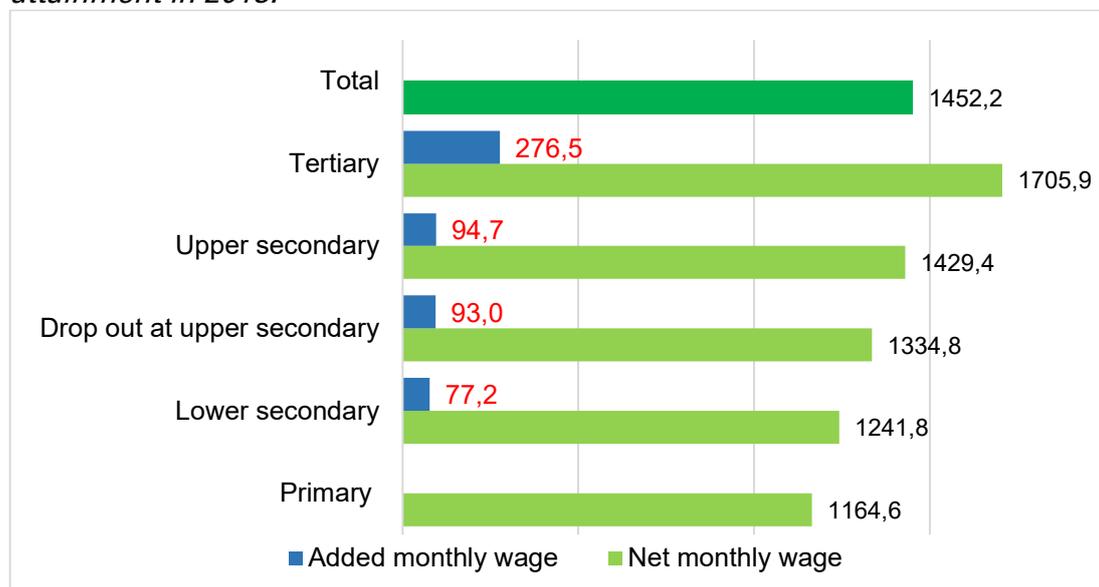
3. Getting poor?

Early school leaving creates high individual, social and economic costs. Young people with only lower secondary education or less are more often affected by unemployment (Scherer, 2005), are more likely to depend on social benefits (Brunello, De Paola, 2014) and have a higher risk of social exclusion (Kronauer, 2019). It affects their lifetime earnings, well-being, and health. They tend to participate less in democratic processes.

In our research we have looked at the risks of economic poverty of ESLs and EESLs especially in terms of the financial resources available to them once they entered the labour market. That is, we calculated the average wages of those who were employed at the time of the survey. Of course, in this case, all those who were unemployed or inactive at the time of the survey have been excluded from the analyses: they supposedly have even fewer financial resources to rely on.

A first findings is that the effect on personal monthly net wages of each additional level of education is not particularly high in Italy, except for the gap between respondents with tertiary education and the ones with upper secondary education.

FIG. 2. *Net monthly wage of the Italian population aged 25-29 by educational attainment in 2018.*



Source: Authors' elaboration on INAPP-PLUS survey data.

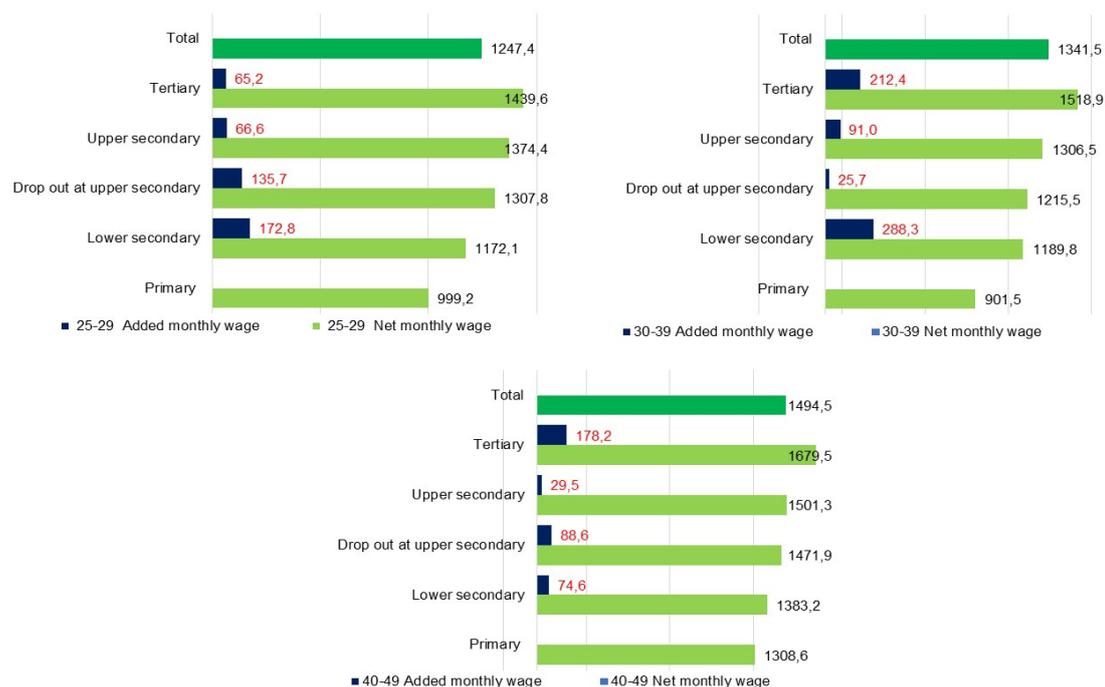
Further analyses are needed to explore the factors explaining the very slight difference between upper secondary graduates' wage and ELS's wage as well as between higher and lower levels of education. However, as seen before, the key effect of early-school leaving is on being in or out the labour market, in being employed or unemployed.

Considering that average net monthly wages tend to increase along life course, the most impressive gaps are between those Italians with primary and tertiary education in the 30-39 age group (617,4 euro) and in

the 25-29 age group (440,4 euro) – while among the 40-49 age group the gap decreases (370,9 euro) – between those Italians with primary and upper secondary education among the 25-29 age group (375,2 euro).

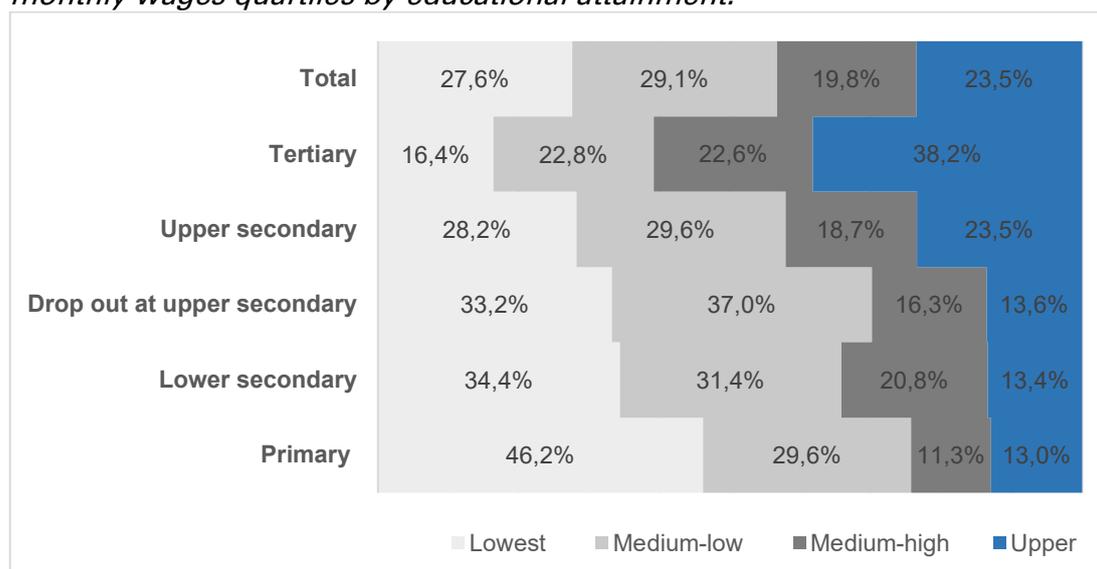
As the analysis of wage gaps based on levels of education does not provide the whole picture since many EESLS and ESLs are inactive and many are unemployed, in order to estimate the risks of poverty resulting from educational poverty, we have carried out an estimation based on wage quartiles and including the entire Italian population between 25 and 49 years. Findings show that, compared to upper secondary graduated individuals, the EESLS' risk of remaining or falling into economic poverty (lowest quartile of net monthly wage) is more than double, while it is double for ESLs (see Fig. 4). 46% of individuals aged from 24 to 49 years with less than primary or primary education are in the poorest quartile, while only 16,4% with tertiary education and 28,2% with upper secondary education fall in the same economic condition.

FIG. 3. Net monthly wage of the Italian population by demographic cohort and educational attainment in 2018.



Source: Authors' elaboration on INAPP-PLUS survey data.

FIG. 4. *Distribution of the Italian population between 25 and 49 years among net monthly wages quartiles by educational attainment.*



Source: Authors' elaboration on INAPP-PLUS survey data.

One out three individuals who dropped out without completing upper secondary education – early school leavers (ESLs) – perform in a very similar way to individuals with only a lower secondary education certificate, meaning that school years at upper secondary school do not alleviate the risk of poverty unless the education cycle completed and the diploma attained.

Furthermore, social origins, included in a regression model as metric variable, exert a significant effect in terms of the probability of being in the lowest income class (Table 4).

TAB. 4. *Odds ratio of being in the lowest income class for Italians aged 25-49 in 2018.*

	B	S.E.	Sign.	Exp(B)
1 Male vs Female	-1.295	0.001	0.000	0.274
2 Primary educ. vs Higher educ. level	1.341	0.007	0.000	3.824
3 EESLs vs Regular	0.850	0.001	0.000	2.339
4 ESLs vs Regular	0.693	0.002	0.000	2.000
5 Synthetic measure of social origin	0.003	0.001	0.000	1.003
6 Age 25-29 vs 40-49	0.805	0.002	0.000	2.237
7 Age 30-39 vs 40-49	0.410	0.001	0.000	1.507
Costant	-0.788	0.001	0.000	0.455

Source: Authors' elaboration on INAPP-PLUS survey data.

Conclusions

In this short paper, we have provided some insights concerning the still relevant phenomenon of early school leaving in Italy. Early-early school leaving is highly correlated to becoming NEET (high rate of inactivism, out of the labour market) and early school leaving is highly correlated to

becoming unemployed among the youngest Italians. Employed early-early school leavers (EESLs) and early school leavers (ESLs) do not suffer from high loss in terms of net wage if compared to upper secondary educated individuals. However, lower social origins exert a double apparently paradoxical effect: it is correlated to ESL and EESL for reasons of unqualified job opportunities and to getting poor when adult life is in. Nonetheless, both EESLs and ESLs have very high risks to get poor in terms of lowest wage quartile.

Recent school leavers experience more disadvantage on the labour market than prime age ones: they are more likely to be unemployed or insecure employed; the labour market situation of recent school leavers was damaged by the current economic crisis, especially in the south of Italy; the labour market exclusion of recent school leavers, as depicted by high unemployment rates, overlaps high employment insecurity. Finally, outcomes show a great early-school leave influence on NEET rates, especially for men.

Changes to the policies and measures to help early leavers re-enter the education and training system focussing on three broad areas – second chance education, youth guarantee and education and career guidance – have not sufficiently occurred in Italy up to now. It is time to tackle the abandon of education by mixing and strengthening those three policies.

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Achievement, Giftedness and Inclusion: Analyses and Perspectives Regarding Inequality

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ABSTRACT: *Debates on giftedness and achievement have attracted widespread public attention in recent years. However, the relationship between giftedness, achievement and inclusion proves to be inconsistent. The paper therefore analyses the mechanisms by which knowledge about promotion of giftedness and achievement in schools is structured and how this relates to the inclusion agenda. An overarching theoretical framework for the analysis is established through the conceptualisation of educational equity. Methodologically, we refer on discourse analysis. As a result, we show how achievement is represented as a distance-creating factor in the discourse and argumentate for a democratic school that recognises all children as capable and «gifts» them.*

KEYWORDS: *achievement, giftedness, inequality, inclusion, discourse analysis*

1. Giftedness and Achievement

Seen over: the proportion of NEETs first rises to 22% in the third quarter of 2011 and then declines (with ups and downs) to 17,6% in the third quarter of 2014. Thus, the number of is generation.

Orienting country, or in one social class. The concept of giftedness and its relationship to school, educational success and inequality (Coleman et al., 1966; Bourdieu, Passeron, 1971; Boudon, 1974) has become the central subject of intense debate in recent decades.

The concept of giftedness is controversial and its relationship to the school, educational success, and inequality (Coleman et al., 1966; Bourdieu, Passeron, 1971; Boudon, 1974) has been the central subject of intense debate for a long time.

In the context of schools, the concept of giftedness is linked closely to the one of achievement, which has been a politically dominant model of schooling in the history of schools in the Western world (Reh, Ricken, 2018; Schäfer, 2018). In recent years, large-scale assessments and the associated output orientation of schools have increasingly determined the international discourse. With this, the notion of achievement was

further strengthened and, its measurability has been questioned. On the school system level, this has been reflected in a competence orientation in various countries (Popkewitz, 2011; Pereyra et al.,).

These developments partly are turned into research programmes in educational science but, they are also criticised as a diversion from the real purpose of school. In this context, the construct of achievement is associated with efforts to reduce educational inequalities (Florian et al., 2016), and there is broad consensus that school systems are successful when they have above-average achievement and below-average socio-economic inequalities (cf. OECD, 2015; United Nations, 2015). However, different constructs of educational justice are used in this context, especially the notion of justice as distributive justice in the sense of equality of opportunity (Rawls, 1971) or that of social justice in the sense of capabilities (Nussbaum, 2006).

Socially shared or dominant ideas of giftedness and achievement are thus discursively developed and stabilised in social contexts. They become knowledge regimes that institutionalise a knowledge order for specific fields of practice (Foucault, 1977; Berger, Luckmann, 1977; Grek, 2009). Thereby, it is negotiated on different levels what is understood by giftedness or what is recognized as achievement in school and what is not. This can be seen, for example, in the question of whether multilingualism of children from families with a migration background is recognised as an achievement or seen as a deficit (Gomolla, 2012). The corresponding norms and notions of normality are thus historically changeable and can differ culturally (Baird, 2009; Ricken, 2018). At the school level, they are attributed nevertheless to individuals in the mode of better or worse school achievement (Gellert, 2013; Scott, 2011). Therefore, the role of schools in reproducing and reinforcing educational inequalities is the subject of much debate (Ditton, 2013). These dynamics of social origin and the role of schools have been impressively described and critically analysed with the habitus concept, and the notion of giftedness has been vehemently critiqued (Bourdieu, 1982; Bourdieu, Passeron, 1971; Kramer, Helsper, 2010; Montt, 2011).

It is here that notions of justice come into play again. If we follow the idea of distributive justice in the sense of equality of opportunity (Rawls, 1971), it would be fair that children who perform well at school subsequently assume privileged positions in society. Described also as the meritocratic principle, this implies compensatory measures for children who are gifted but have less access to resources because of their origins. A fair society should thus provide more resources for the education of the less gifted than for the more gifted (Rawls, 1975, 121).

Following the idea of social justice or participatory justice in the sense of the Capability Approach, educational justice, on the other hand, is demonstrated by the fact that political action ensures conditions that enable everyone equally to develop their individually different abilities. Thus, this refers to a dynamic understanding of giftedness as a process (Seitz, 2007). Equity in education is then not simply demonstrated by the

fact that as many children and young people as possible achieve measurable, high achievement in school, but rather by the extent to which they are given the opportunity in schools to develop their potentials (Seitz, 2009). These processes take place in interactions between students and teachers in classroom practice (Rabenstein et al., 2014). These processes go hand in hand with hegemonic expectations of behaviour and achievement, which may be underpinned by classism, racism, sexism or ableism (Hooks, 2000; Buchner et al., 2015; Akbaba and Bräu, 2019). The discriminatory effects associated with this have been described many times but, there is still little knowledge about the implicit rules according to which knowledge about giftedness and achievement is carried into schools and, consequently, can be found there as convictions of teachers. This addresses the discourse level. The discourse analysis presented for discussion here thus aims at opening up the conceptual connection between giftedness and achievement more precisely and discussing it from the perspective of inclusion research).

2. Methodology

In terms of research methodology, we refer to the Sociology of Knowledge Approach to Discourse (SKAD). This describes a social science research programme for the analysis of social knowledge structures and knowledge policies (Keller, 2008; 2013). The central assumption is that the socio-cultural meaning and facticity of social realities are constituted in and through discourses. In this context, the processes of the social construction of structures of interpretation and action at the level of institutions, organisations or actors are examined for their effects (Keller, 2013). It is assumed that socially shared knowledge is discursively produced (Berger, Luckmann 1980) and that this knowledge is inseparably linked to power (Foucault, 1977). In this sense, we consider the scientific discourse on giftedness, inclusion and their interrelationships as part of the scientific construction of reality and as a hegemonic practice.

To reconstruct this discursively constructed reality, scientific texts on the relationship between giftedness and inclusion were analysed. This was done in two stages.

In a first study, 26 German-language key scientific articles from the years 2008-2019 were analysed using the key concepts of giftedness, achievement and inclusion. For the compilation of the data corpus, the database ERIC was systematically scanned. Since we could hardly find publications that meet the search criteria, we also searched in other national databases. The selection was based on the criteria of impact factor of the journal, citation frequency, the importance of the corresponding authors in the field of giftedness research, and circulation. This criteria seemed important to us, since the circulation of knowledge is also controlled by this (cf. Keller, 2013). The search terms as mandatory

terms in the abstract were giftedness, gift, gifted students, talent, potential, AND inclusion, inclusive education OR Achievement students. For the compilation of the second data corpus, the databases ERIC and Education source were systematically searched. A total of 61 articles were found in English-language peer-reviewed journals published between 2011 and 2020. Of these, 22 articles were analysed after screening the abstracts according to the theoretical sampling (Strauss, Corbin, 2010).

In this paper, we focus on the first step of the survey. The analysis comprised in detail:

1. the analysis of the situatedness and material form, i.e., the respective origin and effect of the text. This includes, among other things, the description of the author and his role in the scientific discourse, the description of the type of journal and the recipients, etc.
2. The analysis of the formal and linguistic-rhetorical structure, i.e., the text genre. This includes clarifying whether the article is empirical or theoretical.
3. The interpretative-analytical reconstruction of the statements in the sense of grounded theory. In this step, the texts are analysed according to the coding steps of open, axial, and selective coding. In this way, the narrative structure underlying the text is worked out. The narrative structure is revealed and dispositifs are reconstructed (Keller, 2013).

Seen over: the proportion of NEETs first rises to 22% in the third quarter of 2011 and then declines (with ups and downs) to 17,6% in the third quarter of 2014. Thus, the number of is generation.

Orienting country, or in one social class.

3. Findings

Regarding the overarching narrative structure of the discourse analysis, the central result of our study is a problematization of the concept of giftedness in steps: (3.1) throughout all publications, the discourse is introduced by an exposition of different conceptualizers of giftedness, such as the psychological model, a functionalist model or a constructivistic model. In the next step (3.2) specific problems concerning inclusive developments are then outlined in three steps: First of all, reference is made to the largescale assessments or the UN Convention on the Rights of Persons with Disabilities (UN-CRPD).

This leads to a comparison of gifted and less gifted students in terms of contrasting these two groups, or as one can also say in terms of creating a dichotomy, and then consequently leads to the identification of possible risks for the gifted and highly gifted students: an at-risk group of high-achieving students is 'produced' to justify specific educational programs. Thereupon (3.3) different educational interventions are presented, like separating, additional support but also, only rarely an inclusive gifted

education. Finally (3.4), these strategies are explained with regard to different dispositives of gifted education: an elite formation, economic usefulness and educational equality (see Fig. 1).

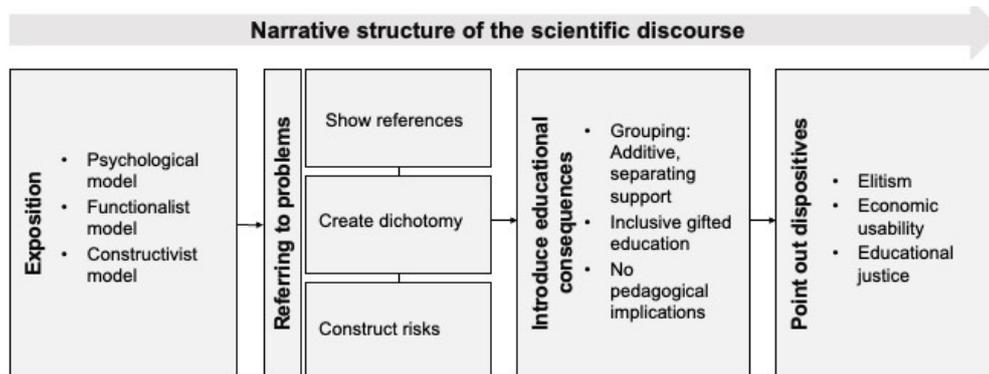


FIG. 1. *Narrative structure of the scientific discourse*

First, the scientific discourse refers to three implicit models of giftedness that lie behind the text. In part, this follows a psychological model of giftedness which presupposes high intelligence as a basic precondition for outstanding (academic) achievement. These are thus, conversely, reliable expressions of intelligence. In part, environmental and learning theory aspects and thus also social contexts are included here, but these are understood as moderators of the transformation of giftedness into achievement. This reveals a deterministic understanding of giftedness and achievement and their interrelation.

Following a functionalist model, giftedness is interpreted as a socially relevant potential which, by transforming giftedness into achievement, becomes a societal benefit. According to this view, transformation of giftedness into achievement is the basis for a stable society and economy. The maximisation of human capital is thus moved to the centre and giftedness, in short, is understood as that which proves to be socially useful potential.

A pedagogically based model of giftedness and achievement takes on a hinge function by, on the one hand, stressing the milieu-bound nature of giftedness and achievement and, on the other hand, linking the promotion of giftedness with social responsibility. All three models agree on the legitimisation of specific programmes and measures for high-achieving pupils.

A key mechanism of the scientific discourse and its dynamic is located in the tension of inclusive developments and the established educational programs. Within this dynamic gifted and less gifted students are contrasted and differences between them are underpinned by pointing out the results of the largescale assessments that supposedly show disadvantages of gifted students, because since the adoption of the UN-CRPD the focus has been on the group of less gifted students so that the opportunities of the highly-gifted students reduced. As an «alarming result» it is pointed out that the largescale assessments has shown

improvements for children at the «lower levels of competence», but not for children at the «higher levels of competence» (A, 2014). This justifies the focus on the group of students with special talents and potentials, who obviously hardly seem to benefit from differentiated inclusive teaching. The PISA studies are thus cited to empirically objectify a focus on high-achieving and (highly) gifted students. In a next step, positive discrimination of the lower and negative discrimination of the higher achievement peaks is thus established. This is because teachers, given the scarce resource of time, would rather choose to support weak students than potentially high-achieving ones (S1, 2014) and their needs would too often be «masked» (cf. A, 2014).

The juxtaposition of supposedly high-achieving and low-achieving students thus highlights a structural disadvantage of (highly) gifted and high-achieving students. In order to stabilise the dichotomy of so-called high-achieving and low-achieving students, it is further argued that the educational policy changes towards school inclusion would lead to a special focus on the group of so-called low-achieving learners. This suggests that inclusion-related developments are at the expense of high-achieving and (highly) gifted students and emphasises that low-achieving students are responsible for the achievement development of high-achieving pupils. Even more so, a shift towards low-achieving students would lead to a deterioration of the competence levels of (highly) gifted and high-achieving students, because «this goal was not reached by improving the weaker students, but by the (relative) deterioration of the good students» (S4, 2014, 11).

In a polarizing manner, it is noted that in the longer-term trend, the supported «lower» top achievers have not only increased quantitatively, but their achievement has also improved. On the other hand, a decreasing trend in the promotion of the «upper» achievement peak is presented, which leads to stagnating achievement. This implies that the top achievers have not been able to extend their advantage to the same (desirable) extent and thus their positioning seems to be endangered. The dynamics of development have increased noticeably since the ratification of the UN-CRPD and the resulting school developments (A, 2014; S1, 2014; S, 2019). The dichotomisation of groups proves to be a key rhetorical figure here because it contributes decisively to the idea of ability as an entity.

The figure of dichotomisation thus produces a specific at-risk group, namely that of the disadvantaged high achievers. Many authors, therefore, agree that inclusive education represents a structural risk for the development of performance (S2 2014; Z, 2011). In this argumentation, the upward mobility of the lower achievement peak entails a supposedly threatening decline of the higher achievement peak, because achievement stability is equated with downward mobility, which is commonly reported with concern in the discourse. The scenario that is drawn is that of an educated elite whose achievements lose value if they do not stand out substantially from the normal field. In this way,

differences between students are introduced and maintained via narratives that are reported in a mode of care toward the 'disadvantaged' gifted students (see Fig. 2)

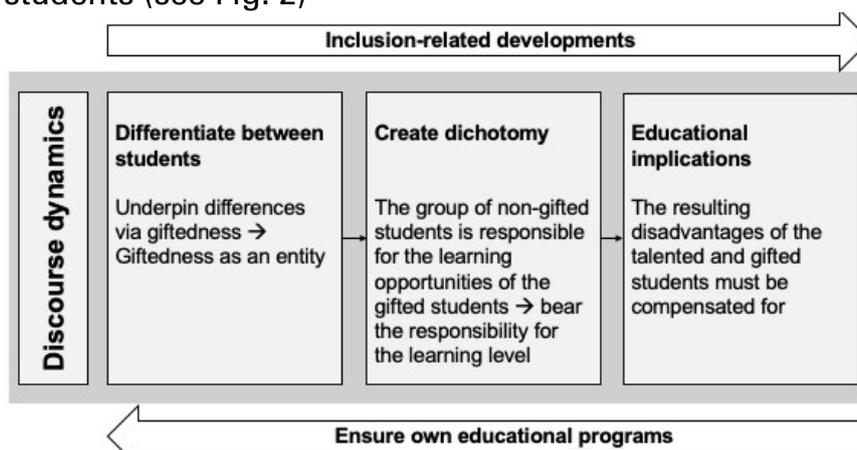


FIG. 2. *Discourse dynamics*

The insecurity (re-)produced in the discourse about the achievement development and support of the top achievers is closely associated with displacement concerns: support offers for high-performing and (highly) gifted pupils are no longer able to adequately address (highly) gifted learners due to diversification and inclusion-related differentiation. This connection is then used as an indication that gifted education and its concepts are increasingly neglected in parallel to inclusion-related developments (B, 2013; P, 2016) – the expertise of gifted education should therefore be increasingly implemented in school-based gifted education. Specific educational interventions in terms of caring strategies are needed (A, 2014).

Overall, relatively little attention is on the discourse on the promotion of giftedness based on educational equity. However, when this topic gets attention, differences are understood as heterogeneity of starting conditions. Following on from this, a high degree of selectivity in programmes for the promotion of giftedness is pointed out, especially with regard to the conditions of access. These are systematically unequally distributed because they focus on achievements already made and not on expected achievements (S3, 2014; S4, 2019). Habitual conditions of the family and the social environment have a strong influence on the development of giftedness and achievement (S3, 2014), which emphasises the social responsibility of giftedness promotion (M, 2011).

Person and environment must form a dynamic unity because the assumption of responsibility by high-achieving persons refers only to their own person, but equally to taking responsibility in the community (M, 2011; W, 2011). The person is thus made responsible for developing his or her talents in a meaningful way. Under the umbrella of educational equity, the aim is to ensure that all students, regardless of their socio- and ethnocultural backgrounds, have equal opportunities to participate

in programmes that promote talent and achievement by adapting to diverse living conditions (S4, 2012).

From a functionalist perspective, the focus is on mobilising achievement reserves for the purpose of maximising human capital. Accordingly, the focus should first be on the achievement elite in order to specifically promote the exclusive group of high-performing learners; accordingly, giftedness research should reflect on its actual research status and focus on achievement excellence and innovation (Z, 2011). The wealth (gross national product) of the country as well as the number of patents, Nobel prizes and technology are also explicitly pointed out as a perspective for use (Z, 2011). Thus, it is primarily about the usability of personal potentials and abilities for the purpose of a prosperous society. According to this interpretation, giftedness promotion presupposes the continuous adaptation of the concept of giftedness and achievement and of the programmes to changing social and employment situations (H, 2008; V, 2007; Z, 2011; D 2017). Programmes for the promotion of giftedness would have to adapt accordingly. The economically oriented exploitation of giftedness and achievement thus stands for a dispositive that expresses itself in the social functionality of giftedness support.

4. Discussion

In our study it became clear how differences are produced and hierarchised in the discourse on giftedness, achievement and inclusion. In the analyzed publications, reference is very often made to specific programs for the promotion of giftedness and achievement, which are justified in a specific way. The inclusive developments seem to challenge such programs, which in many cases are meant to be exclusive, what is why different arguments are used to defend them. In many cases, it is shed light on the assumption that gifted children are disadvantaged in the classroom, because the focus has shifted to the so-called lower peak of achievement. In reverse special care is needed for the group of the (highly) gifted and high-achieving students.

This way achievement becomes a distance-creating factor between pupils, which results as a matter of course from the supposed fact of their different talents and potentials. Giftedness is so a distance-creating entity. In this context, it is not surprising that the hierarchisation of difference in a meritocratic school system is oriented towards the measure of (potential) achievement (cf. Stojanov, 2015; cf. Fend, 2008). However our analyses show that the supposedly disadvantaged group consists of high-achieving and (highly) gifted pupils. The compensation of disadvantages, which is conveyed in the discourse as an expression of justice, ultimately means the promotion of elites. In the discourse, ways to overcome the production of hierarchising orders of difference are rarely sought. This suggests that risk construction is used to secure attention for one's own (pedagogical) interventions and programmes.

In the course of the inclusion-related developments, a variety of efforts was developed under the catchword Individual Support (Fischer, 2014). Even if a dynamic understanding of giftedness is advocated here (Benölken, Veber, 2020), constructions of difference continue to be held on to. This is symptomatic of the categorical distinction between children with special needs in terms of compensatory needs and children with special needs in terms of the need to be challenged (Rott, 2017, 58).

Based on the finding that the concept of achievement is conspicuously dominant in German-language discourse in an international comparison and that inclusion is developing very hesitantly here, it is of interest how the described dynamics are manifested in the international discourse, which is why we are taking this up in an ongoing discourse analysis of English-language literature.

In summary, it is clear that the insistence on the distinctiveness of giftedness over normal learning safeguards unequal approaches and positions. The further development of multidimensional notions of diversity, as present in the discourse of inclusion, pose instead a risk to giftedness research.

This leads us back to the understandings of educational equity introduced at the beginning and makes it clear how important it would be to engage more closely with the different understandings. The tension between social, institutional and individual responsibility as well as concrete possibilities of shaping and influencing successful educational processes for all children and young people should be discussed in more detail. In this context, it is particularly important to question the conceptual figure of education as a scarce resource for which different groups have to compete. However, our research also shows that the idea of giftedness as a stable characteristic, long thought to have been overcome, is still present in the discourse. We are also investigating this aspect further in the current second stage of the survey. For a sustainable democratic school, the call to «gift» children seems central (Stojanov, 2013).

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Challenges for the Brazilian Educational System: between School Inclusion and Social Inequality

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ABSTRACT: *The Brazilian educational system provides for the promotion of quality educational policies with opening for the integration of social layers that all along were excluded from the teaching and learning process. In the face of social inequality resulting from socio-historical circumstances, the Federal Constitution of Brazil as well as the introduction of educational programs and quota laws have opened more space for school inclusion for those who are far from schools or even with an income well below the minimum wage. Even with these educational policies, the white supremacist class has defrauded the vacancies reserved for self-declared indigenous, black and brown people, filling these vacancies in educational institutions in their name. The purpose of this research is to discuss the Brazilian educational system presupposed to understand the inequality and school inclusion. In the research we take in examination text of authors who deal with the Brazilian educational policies, federal constitution, decrees and education programs. The qualitative research with descriptive approach.*

KEYWORDS: *Brazilian educational system, social inequality, social inclusion*

Introduction

Our research seeks to understand the Brazilian educational system, between school inclusion and social inequality, many of the challenges faced have an educational dimension that includes, the radicalization of some sectors of society, economic transformations, democracy under threat of white supremacy. These issues require all powers, executive, legislative and judicial, to find a solution that involves schools, because everyone, regardless of their origin and social condition, needs an educational system and educational policies at the service of the citizens. Furthermore, schools must be able to teach how to learn in changing circumstances. The federal, state and municipal governments have a central role in promoting, developing and encouraging education within constitutional guarantees, therefore, all governments should focus on the common concern that is the development of a quality education system given the cultural diversity for the improvement of the conditions of the citizens.

The great challenge will be to promote, coordinate and support policies on the quality of education, creating access conditions for communities that are in the periphery and have few resources for the best

schools and the best educational system, in order to compete on an equal footing in the job market with those who grew up in the big cities. One of the challenges has to do with the creation of racial quotas for access to universities and employment by reserving places in university entrance exams, tests and public competitions for people of black, brown or indigenous origin, while the same places are disputed by people of the white race under the pretext that there was a black, brown or indigenous person in the family. In this case, education focuses on an instrumental vision that guarantees economic growth, productivity and allows greater access to formal employment. Thinking about the challenges of education, we will use for this analysis, the work of Carlos Roberto Jamil Cury will be equally indispensable, dealing with the public and private debate in the history of Brazilian education, paying attention to educational conceptions and practices. We will also take for the development of our research the texts of Asa Cristina Laurell that deal with a welfare state in Latin America. We will also use legislation. The aim of the research is to discuss the Brazilian educational system in relation to social inclusion and inequality. We will use the qualitative, bibliographical method. With this research, it is expected that there will be a stimulus in the elaboration of educational policies that minimize the differences that exist between the white supremacy class and the black and indigenous people.

Theoretical approach on education

Discussing the educational challenges in the Brazilian education system in the face of social inequalities and inclusion confirms the role of education in emancipation, thus the urgency of the universalisation of rights to access to education as well as the production of a world of equal opportunities. Asa Cristina Laurell (2013), in an interview with Informe ENSP, although focused on the debate of the welfare state, characterizes the Latin American states as being of their greatest deep poverty caused by extreme social inequality resulting from poor income distribution. The interviewee, continuing, brings a very important reflection on the new conception of the production of well-being relegated to individual responsibility, removing state responsibility for the creation of guarantees of basic needs based on the idea of social right or citizenship. This process of construction of social welfare represented the process of social exclusion in Latin America and particularly in Brazil.

Notwithstanding the fact that the problem of social exclusion is above all political educational, according to the Constitution of the Federative Republic of Brazil of 1988, under the terms of art. 6, the right to education is considered a constitutive element of citizenship. A passage by Nina Beatriz Stocco Ranieri (2013, 76) is quite enlightening in relation to the responsibility of the state to guarantee education to all individuals:

[...] enjoys, as a fundamental right, the prerogatives of imprescriptibility, inalienability, non-renounceability, inviolability, universality, effectiveness, interdependence and complementarity. Exemplifying. The right is not lost due to the passing of time (v.g., compulsory and free basic education is assured for all those who did not have access to it at the proper age, CF, art. 208, I); it cannot be violated, under penalty of administrative, civil and criminal liability (the non offer of compulsory education by the public power or its irregular offer implies responsibility of the competent authority, as well as it is the duty of parents and guardians to ensure school attendance, CF, art. 208, §§ 1 and 2); it is universal (art. 208, I and II), presupposes the action of the Public Power and the recourse to coercive means to impose its execution, if necessary judicial action provided for in art. It is universal (art. 208 I and II); it presupposes the action of the Public Power and the use of coercive means to impose its execution, if necessary (judicial action foreseen in art. 5 of the Law of Directives and Bases of Education – LDB, law n. 9.394/96, of 20/12/1996), it is interdependent and complementary to other constitutional provisions (Education has a fundamental role in the national development, in the construction of a fair and solidary society – CF, art. The right to education, additionally, is a fundamental duty of the family and the State, but, above all, it is the individual's duty.

The Brazilian educational policies take into account the aspects contained in the Federal Constitution and in the Law of Directives and Bases of National Education, LDB, Law No. 9.394, 20 December 1996 especially the guarantee within the legal framework of access to education for all Brazilians indistinctly. In art. 3 of LDB proves that education must take into consideration the following principles «equal conditions to access and permanence in school; freedom to learn [...]; pluralism of ideas and educational conceptions; respect for freedom and appreciation of tolerance; valuation of the school education professional and guarantee of quality standard».

Taking into account the Brazilian educational policies, the right to education is an essential issue. Although in recent times progress has been made in the universalisation of access to schooling from primary school to university education, there is a challenge in relation to the limited number of education opportunities available due to multiple factors that have implications for education policies.

In the discourse on rights and educational policies was a theme that has long occupied the work of Carlos Roberto Jamil Cury in his performance as a researcher as well as throughout his teaching especially with regard to social rights and the democratization of quality and comprehensive education. All his research has been committed to public education, giving impetus to the debate on the type of education Brazil intends to build and offer. Carlos Cury also defends education as a space for struggle in the search for social justice and equality.

Public educational policies are grouped within Brazilian social policies, constituted as a principle of normalisation by the State with the aim that

everyone should enjoy the universal right of access to quality education, leading the learner to their full development.

Adão Francisco de Oliveira, in his article entitled Educational public policies: concept and contextualization in a didactic perspective, conceptualizes educational policies within the scope of specific public policies, regarding this, the author considers:

If «public policy» is everything that a government does or fails to do, educational public policy is everything that a government does or fails to do in education. However, education is too broad a concept to deal with education policy. This means that education policy is a more specific focus of the treatment of education, which generally applies to school issues. In other words, it can be said that educational public policies are concerned with school education.

To meet the specific situations of educational public policies, the federal government introduced the Road to School Program through Decree No. 6768 of 11/02/2009 with the aim of supporting students who are far from education centres in areas such as villages, riverside areas, providing free transportation so that they can reach the schools. Following this, the resolution of the National Fund for the Development of Education FNDE No. 45 of 20/11/2013 establishes criteria for the use of school transport vehicles meanwhile, Law No. 12.695, of 25/07/2012 disposes on the technical and financial assistance of the Union within the Program of Support to Teaching Systems for the Attendance to Youth and Adult Education. These educational policies were also associated with the School Continuing Benefit established by the Federal Constitution of 1988 and governed by Law No. 8.742 of 7 December 1993, Organic Law of Social Assistance LOAS, to ensure social assistance at National, state, municipal and federal district level articulating in various sectoral policies such as education, housing, health and food security. This programme would allow access to education for people with disabilities and families in precarious conditions.

These educational policies are relevant because they help in the management of conflicts and in overcoming several challenges in Brazilian education.

Brazilian educational system: social inclusion and inequality

In this section we intend to discuss inclusion and social inequality within the context of the Brazilian educational system, taking into account the Brazilian legislation on education and other documents relevant to this issue. Regarding educational inclusion, Maria Teresa Eglér Montoan in an interview she gave to Nova Escola Magazine in May 2005 conceived inclusion as being «our capacity to understand and recognize the other and, therefore, to have the privilege of coexisting and sharing with people different from ourselves. Inclusive education welcomes all people, without exception». However, to discuss social inclusion and inequality it

is important to contextualise Brazil and its educational system in the global, regional and local panorama. Brazil is a Latin American country, a region of the continent with high poverty rates and consequently many social, territorial and educational inequalities.

According to the study conducted by, Sonia Laus and Marilia Costa Morosini, Latin America is a region of the continent with indices of social inequalities in several areas namely: income distribution, spending on consumer goods and services, access to health and above all to education.

Since their origin, higher education institutions in Latin America have played an essential role in the formation of citizens committed to the mitigation of social inequalities, creating opportunities with the aim of ensuring economic and social development. According to Sonia Laus and Marilia Costa Morosini,

The great challenge for Latin American countries is to provide learning, research and work opportunities for their individuals in an equitable and balanced way in order to guarantee advanced knowledge to support the development of their economies, as these same countries are becoming actors in the global market (2005, 4).

The Ministry of Education of Brazil to ensure the funding of higher education institutions uses the category public-private with its derivatives to differentiate and classify it and to have an understanding of its meaning concerning the financial and administrative maintenance of each of the education sectors. The Brazilian public education system is basically maintained by public power at the federal, state and municipal levels. In relation to this, Jacques Schwartzman (2016), speaking about higher education institutions in Brazil, states that «federal public institutions use public resources for their maintenance, that is, the federal government is their main supporter, because in them education is free, and only 3.5% of the overall budget is made up of resources produced by them».

It should be noted that in Brazil there are state institutions that are under the jurisdiction of a state government who is their main funder, in these state institutions education is free. According to Luciane Stallivieri (2007), «this type of state institution is more concentrated in the southeast region of Brazil, where there are large universities that offer education and research programmes that are evaluated as being of the best quality in the country». An attitude that goes against a free public education was seen recently when Bolsonarist Deputy, Anderson Moraes, proposed the extinction of the State University of Rio de Janeiro (UERJ), in his bill, the proponent in his justification cites that, «it is clear the ideological equipment of socialist bias at the University, with clear censorship of academic thought of other lines of worldview». The bill would allow the Executive Power to extinguish the university of the State of Rio de Janeiro, and promoting the onerous assignment of movable and immovable assets to the private sector, and what was not absorbed

would be transferred to other state universities, such as UEZO and UENF (Freire, 2021).

The proposal of this instrument clashes with article 3 of title II of Law n° 4.024 of 20 December 1961 in relation to the right to education establishes in § 1 «the right to education is assured by the obligation of the public power and by the freedom of private initiative to provide education at all levels, in the form of law in force». Not only that, the same law adds in § 2 that, «by the obligation of the State to provide indispensable resources so that the family and, in its absence, the other members of society are released from the burden of education, when proven the insufficiency of means, so that equal opportunities are assured to all».

Fifty years ago, the university reform established by Law 5540/68 was adopted as a military strategy to face the crisis caused by the student movement, as the opening of opportunities of access to higher education to the upper middle class.

At a time when social differences and problems were growing rampantly, the military state aimed to bridge the gaps that existed within society, the author notes carefully in relation to this period:

Thus, the legitimising bases of the Military State tried to provide an «equality of opportunities» at a time when social differences were increasing. In other words, it saw education as a solution to social problems. The educational policy also pretends to supply a real need, which would be to reduce the exclusion of the popular layers of the literate culture. But, although significant contingents of the popular classes had access to school, the education provided to this population was second-rate and of low quality (BATTISTUS et al., 229). In the past as well as today, Brazilian education is the responsibility of the State and therefore public, allowing it to be seen from a one-school perspective. In other words, education is meant for all social classes. The launching of the Education Pines Manifesto, proposed a reconstruction of education that would cover all with a unitary plan and founded on scientific bases. The Brazilian Constitution of July 16, 1934, in its art. 150 was of utmost importance when it declared to be of the Union's competence «to fix the national education plan, including the teaching of all degrees and branches, common and specialized; and to coordinate and supervise its execution, in all the country's territory». And consecutively, in Article 152 it attributed «primary competence to the National Education Council, organized in the form of law, to prepare the plan to be approved by the Legislature, suggesting to the Government the measures it deems necessary for the best solution of educational problems as well as the appropriate distribution of special funds.

In Law No. 10172 of 9 January 2001 of the National Education Plan there is a consolidation and improvement a guideline that was introduced by the Fund for Maintenance and Development of Basic Education (FUNDEF) whose main concern is equity. Equity concerns not only the systems themselves, but the students in each school. Therefore under

this law, there is no point in receiving funds per pupil with spending practices that create privileges for some schools to the detriment of schools in some neighbourhoods with quite precarious conditions. On the other hand, the Laws of Directives and Bases (LDB) 9394/96 establishes that it is up to the municipalities to exercise the redistributive function in relation to their schools. For this reason, education is not a concern of a particular social segment, but involves the whole government.

With the introduction of quotas since 2000 by the University of Brasilia, when the selection process of that year decided to reserve places for a certain group of candidates. Only twelve years later a Quotas Law 12.711 of 29 August 2012 was sanctioned, which provided for the allocation of places for students who self-declare black, brown or indigenous to have access to public school. The Law provides in its art. 1 «disposes about the entrance to federal universities and federal institutions of technical education of medium level». In relation to the aforementioned vacancies, the Law sanctions in its art. 2, § 2 that,

The vacancies referred to in Article 1 of Law No. 12,711 of 2012 shall be filled, by course and shift, by self-declared black, mixed race and indigenous people and people with disabilities, under the terms of the relevant legislation, in proportion to the total number of vacancies, at least equal to the respective proportion of black, mixed race, indigenous people and people with disabilities in the population of the federative unit where the institution is located, according to the latest census of the Brazilian Institute of Geography and Statistics Foundation – IBGE.

Through this educational policy of quotas, 50% of the reserve is destined to students coming from public high schools, half of which is destined to candidates with a monthly per capita income equal to or less than 1.5 minimum wages and the other half to students with an income higher than 1.5 minimum wages.

In addition to the provisions of this law, the universities and post-graduate programmes of public universities have the autonomy to implement affirmative action to guarantee access to higher education for quilombolas, indigenous people, students with special needs, black and brown people.

The design of public educational policies for the inclusion of a segment of society that for socio-historical reasons had little access to education, its development was aimed at providing equal opportunity to classes on the margins of development, however, very recently were witnessed several accusations and protests to the fraud of racial quotas. As Isabela Giordan writes (2020)

In 2020, the Universidade Estadual Paulista (Unesp) expelled 30 students who entered the institution through racial quotas, but did not follow the prerequisites. At the Federal University of Rio de Janeiro (UFRJ), more than 280 complaints were made since the implementation

of the evaluation commission. At the University of São Paulo (USP), about 40 complaints are under analysis.

It is also noted that in this period, to the detriment of legitimate beneficiaries of quotas, white students were defrauded into entering universities. Proof of this is the presentation of more than a thousand complaints in various courses, not only in the universities mentioned above, but in several nationwide. Following this, Denise Pires de Carvalho, Rector of the Federal University of Rio de Janeiro, pointed out that the manipulation to racial identity was possible because there was institutional omission, creating the space for fraudsters to take rights away from the poor class (Giordan, 2020).

Bookcase

In the book «Os Sertões», Euclides da Cunha one of the most highlighted aspects about the vulnerability of the Brazilian interior populations, deals with the lack of social and physical support to the «sertanejo». Mario Vargas Llosa highlights in «The War in the Backlands», a novel about the degree of degradation in the lives of women, children and old people who survive the attacks in September 1897, where more than 20,000 people died. Euclides da Cunha is quoted by Berthold Zilly when dealing with the authenticity of the discussion on the contemporaneity of the discussion on intolerance starting from Canudos deals with the aesthetic character present in the work «Os sertões». For Berthold Zilly:

The good reception, among critics, of the last translations of the book, from the French one of 1994, is partially due to the actuality of many of its themes and points of view in a world characterized, from some years ago, by an astonishing resurgence of barbarism, frequently practiced in the name of high civilizing values, of modernity, of progress, of democracy, of international law, of socialism, of the nation, of self-determination, of liberty, of justice, of cultural identity. Just to name a few: Chiapas, Guatemala, Afghanistan, the Persian Gulf, Rwanda, Bosnia, Chechnya and, most recently, Dagestan. Canudos, for the most diverse reasons, is hauntingly repeated (Zilly, 1997, 5).

To Zilly, *Os Sertões* deals with the clash of cultures, in the cultural, religious and fundamentalist confrontation, as opposed to modernity, rationality, secularization and globalization, in a brutal and arrogant way.

The discussion shows a self-criticism of the civilizing character present in the relations of society, in contemporary wars, which allow the understanding of the concept of intolerance ontologically conforming social vulnerability, in an area of conflicts.

Berthold Zilly (1996, 330) also cites that despite the extinction of the death penalty in Brazil, the summary execution of the defeated backwoodsmen, with the approval of their commanders, reveals some of the manifestations of intolerance due to the absence of appropriate treatment, considering the legal sense. It also reveals the presence of

hundreds of women and children, many sold to traders and brothels, besides the very jaguncinho that Euclides da Cunha later supported. Besides the victimization that the work «Os Sertões» presents, the destruction of assets, including the two churches of Canudos and 5,200 houses dynamited, set on fire, «demolished stone by stone», which were in the view of Zilly (1996, 330): «razed to the ground in order to extinguish any and all remnants of the insubmissive community». For that author: «...the social misery and the spiritual context to which» (Antônio Conselheiro) had given expression.

The citation of the «book keeper» and his relevance to the solution of social problems highlights the difficulties of social insertion of the Belo Monte region and the investments made 70 years after the conflict, with the presence of social programs of the State University of Bahia and its advanced campus. It is the rescue of the conditions of employability and human dignity, with the implementation of academic courses and extension programs in the areas of rural production, professionalization and elevation of education.

The rescue of social conditions went directly through the identification and appropriation of educational programs to social demands in Canudos. The originality of the work «Os Sertões» shows that education, religiosity and literary aesthetics that present the pictorial and theatrical character of the scenarios presented, show a conflict where intolerance and manifestations of vulnerability are imbricated. The work allowed us to observe the consistency and regularity with which, its intolerance influences vulnerability in conflicts involving victims of armed conflict.

Conclusion

Our research discussed the Brazilian educational system in the face of the scenario of social inequalities and school inclusion reflecting on its emancipatory role in society. Therefore, we noticed that, notwithstanding the elaboration of educational policies tending to the universalization of rights to access to education and the expansion of opportunities for villagers, river dwellers and contemporarily the promotion of social welfare, the Brazilian educational system still continues to present barriers for families immersed in the conditions of misery.

These educational policies took into account sectoral policies contained in the 1988 Federal Constitution, in addition to various laws such as the Law of Directives and Bases of Education, LDB No. 9.394 of 20 December 1996, which in synthesis establish the opportunity, equal access and permanence in schools, respect for the different, tolerance and appreciation of education operators.

The design of educational policies aimed at minimizing social inequalities, territorial as well as educational, inclusion of social groups that were acantonados of conditions and means of access to education, however, there were reports that confirm the defrauding of vacancies

reserved for students from poor families, black, brown, indigenous that for historical reasons, was a class that had difficulty accessing educational institutions.

The work «Os Sertões» demonstrated the autocratic civilizing character present in contemporary societies, where intolerance, social vulnerability not only in the context of conflicts, ontologically is extensive to educational context.

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Preventing and Tackling Forms of Gender-Based and Intersectional Hate Speech Through Formal and Non-Formal Education

Didactics of Law and Gender-based Hate Speech

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ABSTRACT: *This contribution aims to discuss some of the possible ways to counteract the culture of gender-based hate speech, starting from secondary school civics and law courses (nowadays, the subject of academic teaching in Law Didactics) and widening the view beyond. Firstly, this analysis will address the key elements that are now most commonly associated with the explosion of hate speech in the digital domain, and its particular 'reactive' character. Secondly, on the basis of this assessment, an attempt will be made to evaluate the extent of the possible educational impact of some models of workshop activities aimed at immunising young people against such preconditions of hate speech degeneration.*

KEYWORDS: *story-telling, hate speech, gender discrimination, civic education, Z generation*

Introduction

In this essay an attempt will be made to reflect on the potentiality given by the use, against the spread of gender-based hate speech, of didactic methods linked to the practice of story-telling.

The idea that story-telling could be particularly central to this purpose is based on the assumption that what underpins the social structure of discrimination first, and reactive hatred later, is itself a story, a narrative.

Stories, myths, social scripts – together with their assumptions – have historically constituted the very cohesive basis of human societies since their origins¹. Today, the place where these sedimented narratives can best be contrasted (with other narratives, other systemic constructions of value) is the very place in which the cultural latency of the stories and values on which social identity is based can be reproduced in a thoughtful manner: namely, school (Bruner, 1992; Bruner 2006).

¹ Cf. Ibn Khaldun and his theory of *'asabiyya* (see Verza, 2021, but also, more recently, Harari, 2017).

1. The imaginary orders of culture

The stories shared in the collective memory have an ancestral cultural and social function: they have always been the tool that has allowed human beings to cooperate on a large scale.

Since the dawn of human civilisation, it is through shared stories, first orally narrated and memorised, and then written down, that cultures, and the societies that recognise themselves in them, have emerged. Through myths and narratives, various civilisations have been able to produce schemes of meaning and value that have been essential for aggregating and structuring their societies, while at the same time combating chaos, and exorcising what Luhmann (1990) defined as the never definitively tamed 'complexity'.

The fact that it is through narratives, and the correlative structuring of meaning they provide, that we define the sense we give to the world and combat the *horror vacui*, explains the great resistance to change that characterises myths and social scripts, and our latent attachment to them.

It is at least *also* through the *narration of the passage* from Chaos to Olympus in the Greek myth, for example, or from the '*tohu vavohu*' to the divine creation in the biblical narrative, that the very passage towards a history endowed with meanings and internal structures is realised. Similarly, as Marcel Mauss (1981, 200) argued, it has been the scansion of time into dates and the creation of a 'narrated' calendar that has enabled human cultures to regulate and subjugate the chaos of the temporal dimension, organising it into a rhythm capable of cutting «indefinite duration into finite durations» (Mauss, 1981, 218), which could offer in return predictability, control, meanings and operational possibilities (just think of the importance of metrical poetry in ancient times).

Such narrative constructions are based on definitions, distinctions, and structuring that also end up defining hierarchical orderings. And these, together, create an internal order that, by its very existence, excludes or contrasts other orders.

One of the most constant discriminations, in the social narratives, is that linked to sex and gender. In time and space, different cultures have emphasised different discriminations from time to time:

Race is very important to modern Americans, but it was relatively insignificant to the Muslims of the Middle Ages. Caste was a matter of life and death in medieval India, whereas in modern Europe it is practically non-existent. (Harari, 2017, 186.)

Then there is also class, and rank. But no typology has known and knows the same spread and persistence that gender discrimination does.

However, as Harari (2017, 47) writes, since myths and imaginary constituted orders exist only in the collective consciousness, «the way in which individuals cooperate can be altered through a rotation of myths – *that is, by telling different stories*». In other words, myths can also change radically, if circumstances permit. Just think, for example, of the

revolutionary impact of parables in the Christian reconstruction of the Jewish religious structure, or the instructive value of *'ibar* (instructive examples) in Arab culture. Or think of how abruptly, after the French Revolution, a shift took place from the belief in the myth of the divine origin of the right of kings to command, to the belief in the myth of the sovereignty of the people. The key point, then, is belief.

In contrast to a natural order, which would continue to exist regardless of human belief in it, any imaginary order, precisely because it is such, is at constant risk of collapse, insofar as it depends for its survival on the actual belief in it, and that's why efforts are made to maintain it. These efforts will be based, above all, on social latency, i.e., on incorporating the principles of this order, through education, into all the other narratives to which we are exposed (in fairy tales, art, politics, good manners, the rules of fashion, even in the pedagogy of architectural spaces) (Harari, 2017, 148-149), until acceptance is automatically and inadvertently achieved.

If necessary, these orders can find further reinforcement in the use of arguments aimed at denying their imaginary and constructed nature (for example, by invoking nature or the divine will as their basis).

Lastly, as an ultimate element of defence, they can rely on violence to eradicate heterodoxy.

If education is, therefore, the main instrument for the perpetuation of shared structuring beliefs, it is within the sphere of education itself that it may be possible to focus on creating and reinforcing other counter-discourses, capable of structuring the world on the basis of different values and removing imaginary support from discriminating schematisations which, linked to the past, are today only sources of unjustified suffering for many people.

2. The reactive nature of gender-based hate speech

The spread of an ordering narrative aimed at supporting a sexist hierarchy for the distribution of privilege and power, therefore, does not necessarily require the use of violence. On the contrary: in a context in which the acceptance and introjection of this hierarchical structure were strong and fully functioning, adherence to its patterns would be spontaneous (Kimmel, 2017). The use of violence, in its various expressions, should instead be seen as the extreme resource emerging out of the conformist efforts that are deployed to defend and maintain a narrative perceived as being at risk of collapse.

Indeed, the gender-based hate speech of recent times, especially if we consider it by paying attention to the toxic and vindictive narratives which proliferate online today in the so-called 'manosphere' (Verza, 2020), responds precisely to these characteristics, and presents itself, openly, as a reactionary discourse, aimed at recovering the centrality and strength of patriarchal power structures which have been the subject, in recent

decades, of analysis and deconstruction by the various currents of feminist and legal-feminist thought.

In the online groups in which the animosity and hatred, often inhibited in the offline dimension, finds its outlet and gets multiplied, the dominant narrative is centred on the equation of traditional male privileges with natural-based 'rights', illegitimately denied, frequently combined with a new victimhood according to which it is precisely the unjustified excess of legal and social protection granted to the allegedly 'weaker sex', and the rhetoric of the unjust privileges allegedly enjoyed by males (especially if white, heterosexual and Western), that have produced discrimination in society, to their detriment (Verza, 2020).

According to the General Policy Recommendation no. 15 of the Council of Europe's European Commission against Racism and Intolerance (ECRI) of 21 March 2016, hate speech consists of

the advocacy, promotion or incitement, in any form, of the denigration, hatred or vilification of *a person or group of persons*, as well as any harassment, insult, negative stereotyping, stigmatisation or threat in respect of such a *person or group of persons* and the justification of all the preceding types of expression, on the ground of 'race', colour, descent, national or ethnic origin, age, disability, language, religion or belief, *sex, gender, gender identity, sexual orientation* and other personal characteristics or status².

One of the merits of this definition lies in the fact that it highlights well the twofold directionality of hate speech, which is such not only when it is aimed at specific persons – with criminal repercussions on defined victims – but also when it is directed against a group – in this case, women, collectively attacked as such by hate speech in their egalitarian claims.

Given this bifurcation, the damage produced by this type of message results not 'only' in an infringement of the individual rights of the victims of such discourse, but also in a collective damage affecting the cultural ecosystem that surrounds and involves the entire citizenry (see Heinze, 2016), together with its democratic balances.

So, tools have to be designed to immunise and protect against the toxicity of such discourse, for the sake of the legitimate interest of every member of the community – whether adult or growing up, man or woman – to enjoy a full, healthy and safe democratic citizenship.

And it is to a democratic school, insofar as it is called upon to carry out at every school level the task of Civic education of the new generations, and in many schools also to pass on the foundations of legal culture, that the task of stimulating a resilient capacity to resist such narratives and imaginary orders of social reality rests.

² Source: www.coe.int/en/web/european-commission-against-racism-and-intolerance

3. The identity vulnerability of Generation Z

The gender-based hate message can be transmitted through various channels. The most immediate one is, of course, the use of words, but given the decisive and ever-growing importance of the internet as a means of communication, there is now an increasing use of the visual channel in the transmission of hate language, expressed through images, videos and 'edgy' memes, which are even more immediate and more capable of cruelly targeting the intended victims (while the anonymity of the online environment has increased the impunity of haters). Fine-tuned initially in places like Reddit's imageboards, these visual messages keep migrating to the other sections of the manosphere, where the neo-patriarchy expresses its counter-cultural and misogynistic message.

'Meme' is a term that has been used since Richard Dawkins' 1976 work, but has come into vogue especially in recent years. It designates any cultural unit that, transmitted from person to person, replicates and reproduces itself by imitation in a manner similar to that which characterises biological entities. Developed on the web initially under humorous pretexts, the meme (generally consisting of images accompanied by captions often elaborated in an ironic-sarcastic tone, which combine immediate interpretative tones with other layers to be decoded by 'initiates' only, able to grasp the different levels of irony) is today the main, or one of the main, vehicles of gender-based reactive hate speech circulating on the web.

It is important to note that this increasing reliance on the visual code, and on tools capable of provoking fun and an immediate emotional impact, is perfectly complementary to some of the characteristics that are peculiar to the generation currently showing up in secondary school contexts. This is, in fact, the so-called 'Generation Z', gathering subjects (the digital natives) who, born between 1995 and 2010, have never known the lifestyle and heuristics typical of the era prior to the explosion of Web 2.0, and who have consequently experienced from the outset, in the structuring of their cognitive and behavioural characteristics, the influence of the online world and touch technology as a fully integrated dimension of their existence.

Studies on this generation (among many, see Palfrey and Gasser 2008) have highlighted some of the general characteristics of its members: having grown up '*onlife*' (Floridi, 2017) in an immediate and constant confrontation with social networks such as Instagram, TikTok, YouTube and others, they are first of all investing in their own social identity as has never been done before, producing on social networks a meticulously and continuously supervised micro-narration of the self, which Floridi (2017, 71) effectively defines as an «immense and externalised stream of consciousness».

Of course, the consequence of such a high investment is not only a greater exposure to the messages of hatred and (cyber)bullying

circulating on the web, but also a proportionally heightened *vulnerability* to them.

In addition to being strongly narcissistically focused on their own self-image, the members of Generation Z live in a dimension that is increasingly integrated and dependent on the new technologies and their informational speed, which forces them into a continuous confrontation with an infodemic amount of data that is difficult, if not impossible, to sift through and 'digest' in full. As a consequence of this, they tend to be impatient and intolerant of content that is long, complex, abstract, and of slow fruition. Hence, their allegedly reduced ability to critically order the data of reality.

This translates, for this generation, into a greater immediate and emotional reactivity in the face of superficial messages, which are interpreted quickly and mainly on an iconographic basis, and into a lower capacity for critical defence in the face of ideologies with a strong suggestive impact.

Finally, the members of Generation Z are found to be especially subject to influence, which means that they are extremely exposed to the conditioning power exerted by those ideas and opinions that, online, acquire a character of popularity, transmitted by different kinds of influencers.

Combined with the narcissistic investment in the social appeal of one's own identity, and with the impatience shown towards the consumption of complex information, the characteristic influenceability of the members of this generation intersects once again perfectly with the persuasive power of the discourse created and circulated online – including the more reactive and countercultural one, expressed by haters and hate speech spreaders.

This is all the more so given that their peremptory aggressiveness seems even more likely to respond to the demand for solid certainties of a generation that, in its search for likes or snapchat perfection, and in its confrontation with a disorientating information flood, is struggling with a considerable identity insecurity.

The period of secondary school especially constitutes an extremely delicate phase of growth, where social identity risks being affected by such narratives. This can happen through ideological contagion, due to the reassuring appeal of such narratives, increased by the immediacy of their iconographic language centred on memes, and by their assertiveness (cases of ideological radicalisation online are not uncommon, and young people have always been most at risk of succumbing to such dynamics (Verza, 2019)). But this can happen in a passive way too, given the always looming possibility for them to be attacked, or to be influenced by the inhibiting consequences of the spread of such aggressive discourse (especially considering the heightened vulnerability of Generation Z as far as self-esteem is concerned).

4. Civic Education and Law courses against gender-based hate speech in secondary schools

In Italian secondary schools, the disciplines which could implement this work of online education are certainly Civic Education, called to revolve around the three axes of the Constitution, Sustainable development and Digital citizenship, and Law, which gives an opportunity to reflect on the constitutional principles of gender equality.

As is well known, Law 92/2019 introduced in Italy from the 2020/2021 school year, for all levels of education, starting from pre-school, the compulsory teaching of Civic Education (called to also absorb the previous teaching of Citizenship and Constitution), transversal to the other subjects, but endowed with a grade of its own.

The teaching, which should take at least 33 hours per year, will have to revolve around the abovementioned three axes. With regard to digital citizenship, in particular, the aim should be precisely that of getting the students to use the new media and digital tools in an aware and responsible manner, developing critical thinking and raising awareness about the possible risks associated with them, and combating hate speech.

Therefore, the university teaching of the Didactics of Law, that prepares the future teachers of these students, has the opportunity to be, upstream, a privileged place to develop a meta-didactic reflection on these issues.

In light of this educational need, it will therefore be necessary to take into consideration the fact that Generation Z students will particularly need immediately applicable training that could help them to build up defences *already at their age* against the aggressiveness of hate narratives that could directly or indirectly affect them.

In this sense, Civic Education should be designed and set up literally as 'e-ducation', i.e., as a path capable of *e-ducere*, of leading young men and women *out* of the ideological traps scattered in the darkest regions of the web, such as the manosphere, helping them through the development of skills and values drawn from civic rules and law. The aim, based on the common democratic interest in ensuring the equal value of every citizen, should be to help set up defences in relation to the risk that students may be absorbed by the manipulative capacity of such ideologies of hatred.

To this end, it would be essential at least to make students conscious of our limited rationality³ in order to open up glimpses of awareness on the *manipulative* nature of the digital world, and in relation to the risk that they may become victims of hate speech, both directly and indirectly, due to the negative influence of sexist cultural ecosystems.

³ A theme already dear to H.L.A. Hart, but especially related to the research of Kahneman and Tversky.

For example, when dealing with the issue of citizens' rights and freedoms – and therefore also freedom of expression and gender equality, which are most relevant here – particular attention will have to be paid not only to the acquisition of abstract legal knowledge and notions, but also to the development of skills and competences related to these issues. This starts with those relating to the ability – far from being taken for granted – to *recognise* inequalities⁴, together with the language and narratives that underpin them, or to be able to analyse, in critical terms, the attribution of roles on the basis of gender that has traditionally characterised the institution of the family, or to be able to reflect on the limits of freedom of expression.

The incubator provided by the academic Didactics of Law courses, therefore, also has the task of sensitising future teachers to the importance of finding ways that are in tune with the characteristics of the generation they are educating, in order to accompany students to critically defend themselves from hate language by exercising the ability to analyse the different social narratives, and the different forms of hierarchy they produce, focusing on the principle of equality.

Only in this way will it be possible to develop the necessary defence antibodies against aggressive narratives, harmful to the equal dignity and equality of all citizens, in the new generations of adults, bearers and transmitters of the narratives on the basis of which society will be aggregated in the near future.

5. Frontal opposition or development of an alternative story-telling?

So, how can the disciplines of Civic Education and Law be configured to counteract the impact of the current reactive revival of the narrative of female inferiority, together with all the discriminatory and violent corollaries that are based on it, on the narcissistically fragile Generation Z, so informationally overloaded and exposed to the conditioning of influencers?

The first and most immediate working hypothesis that comes to mind immediately goes to the method of discussion and therefore, through this, of the submission to critical analysis in a 'safe space' of this narrative, and of all those assumptions that, handed down by habit, are normally grafted onto the consciousness by *default*, bypassing rational scrutiny.

However, there are some aspects to be taken into account when attempting this route. Gender discriminating narratives are in fact controversial, emotionally charged and highly divisive from a political, religious, social or ethnic-cultural point of view, and a direct and frontal

⁴ See the theories of Norwegian social psychologist Berit Ås, who has worked extensively on highlighting tools and modes of domination and gender-based violence that are often not perceived as such.

discussion of such issues can easily come up against a very high and blindly reactive sensitivity of the students (or, even more, of their parents), coupled with a poor ability or willingness to reflect on the issue and question it. In such a case, a frontal discussion of the topic, besides being very difficult to manage, would even risk stimulating counterproductive and more rigid polarisations.

But in an even more general sense, placing such narratives on stage and focusing on them for a direct discussion risks increasing their visibility and authority even more. As Jacques Lacan (Seminar I) said, by naming the elephant you evoke it, and thus you end up, ideally, bringing it directly into the room. And if the elephant in question consists of a narrative (and an imaginary order is such), it also becomes immediately self-reproducible, according to the dynamic of parthenogenetic replicability that is characteristic of cultural memes. Paradoxically, addressing the issue of sexism directly and defensively may risk enlivening and fuelling the very phenomenon it is intended to fight.

There is an image in Greek mythology that refers precisely to this dynamic: that of the Hydra of Lerna, one of the last and greatest labours that Hercules had to face: every blow of the sword that succeeded in cutting away one of its heads, in fact, only allowed two new heads to sprout.

Attributing sexism the honour of being placed at the centre of a direct discourse, in short, may paradoxically risk increasing its visibility and popularity, thus surreptitiously helping its 'virus', the informational meme, replicate itself in potential new proselytes of toxic masculinity, as well as in those women who, against such a view, will be driven to seek ways of adapting to this structure.

Incidentally, this already constitutes the unintended effect in some cases exerted by a burgeoning well intentioned anti-sexist and 'rebel' publishing industry, today targeting the youngest age groups (infancy and primary school), which – whatever its intentions – often ends up constituting, for many boys and girls who had never before been truly infected by a gender discriminating narrative, the first astonishing encounter with the very sexist narrative. It is thus introduced early in their identity formation, together with all its memes and the doubts, fears and correlative constructions that arise with it.

This brings us to the value of the alternative methodology given by contrasting the language of hatred by proposing positive and exemplary content, in Civic Education and the teaching of legal subjects, first and foremost through a story-telling approach. In particular, this should be aimed at directly emphasising and foregrounding egalitarian narratives that convey 'memetic' ideas of moral and political progress, rather than defensively confronting discriminatory constructions, thereby circumscribing the disadvantages of frontal and direct discussion (Lakoff,

2014)⁵ and transforming the impasse of conflict and difference of principle into constructive terms.

The conviction that a constructive and parallel discourse be preferable to a directly defensive and critical one is also connected to Shalom Schwarz's theory of dominant values, according to which the values around which moral discourses are grouped can be arranged in a kind of 'wheel', where the position of values also indicates the relationship of opposition and affinity between them. For example, in Schwarz's scheme, the value 'Tradition' is adjacent to 'Security' on the one hand, and 'Conformism' on the other, and faces 'Universalism' on the wheel. According to this theory, it is by directly stimulating and nourishing a certain value that the opposite one gets automatically weakened – while the values adjacent to the stimulated one also obtain a relative partial reinforcement (Schwarz et al., 2012).

Story-telling is an ancient method that has been recently developed especially in the field of non-formal education, but is certainly interesting and adaptable for use in formal education too. Indeed, story-telling, can create an initial context that can lead students to explore different points of view and reflect critically on the issue, avoiding, at least in part, the principled polarisations that would be produced by directly tackling the subject with the frontal discussion method.

Applied to the issue at hand, one of the advantages of story-telling (which can also be conceived as digital story-telling, thus better fulfilling the digital citizenship education mission attributed to Civic Education (Morra, 2013)) lies not only in its permitting contextualisation in the learning process – which is so valuable, in particular, for Generation Z – but also in the fact that the story-telling's enduring ability to fascinate and empathically involve students, could allow them to put into practice the skills and competences they are asked to develop.

By sustaining their interest through identification (which constitutes, since the Aristotelian (1995, 1149b 24-28) *Poetics*, one of the cardinal principles of narration) story-telling introduces a shared collective experience which, however, allows the participants to maintain that external detachment (given by the narrative pact that frames it) which also enables those who have been personally touched by the phenomenon (as victims, for example, or as people who have come into contact with such ideological bubbles), to participate in the subsequent reflection without having to raise immediate affective-emotional defences and filters (Krashen, 1982)⁶.

⁵ I thank facilitators Michele Di Paola, Carmine Rodi Falanga, and Jan Lai, and participants in the Erasmus+ «Citizenship Reloaded» course, 14-19 December 2020, for the interesting discussions that have arisen regarding this and the following point.

⁶ Although Krashen applies the principle of affective filtering in the specific context of glottodidactics, this can be considered as having general value.

Moreover, it is in the expectations that develop as the story unfolds that the gender stereotypes introjected by the students can emerge – which is a necessary preliminary step for the subsequent discussion, that can thus arise and be channelled more easily, and in a less polarising manner, within the narration itself. In such a way, thanks to the restraining limits given by the frame of the story, the students could get encouraged to listen in a more relaxed way to the different views, and eventually to learn from the reflection that would arise.

Especially in view of the involvement necessary for students to move from acquiring knowledge to developing and experiencing skills, the practice of story-telling, perhaps associated with other activities also carried out in groups – such as brainstorming, the work of classification, comparison, and connection with other stories, and more generally discussion – turns out to be a valuable ally for the purpose of transmitting egalitarian narratives with which to dismantle discriminating and violent discourse. Thus, this would be operated by directly and actively constructing on positive examples and models, rather than through a critical and deconstructive work that could risk, paradoxically, feeding precisely what it aims to dismantle.

We said at the start that telling different stories and sharing (in the imaginary field) different constructions and structuring of our social world is a necessary condition for changing our narratives and, through these, the way men will cooperate and relate to each other.

The dismantling of toxic narratives, weakened through the nourishment of egalitarian and democratic values, pondered and refined at a meta-didactic level in the context of that ideal place for the transmission and experimentation of egalitarian story-telling that is the university teaching of Didactics of Law, could thus prepare the basis for effectively countering the gender-based hate speech memes that keep spreading on and off-line, and to contrast the damage it produces to the detriment not only of specific people, but of everybody, through the pollution of the cultural and social environment where we all live.

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The Impact of the Anti-Gender Movement on Educational Contexts: Resistance, Resilience and Redefinition

Sexting: Miniskirt in Cyberbullism? A Different Way to Prevent and Combat Gender-Based Violence at School

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ABSTRACT: *Online violence is firmly rooted in gender-based power relations, but the trend of educational interventions is too often focusing on use, abuse and risks of digital media, both in school plans, public debate or academic research.*

The risk is a stigmatization of sexting and, as a consequence, of those who practice it, even in the form of safe «sexts» as a way to express sexuality: sexting risks to be assumed as the miniskirt in cyberbullism, a way to blame «sexters» instead of identifying violent behaviors and violent authors.

After discussing the risks of secondary victimization, we are going to present a different kind of educational work in the experience of the educators from Anti-violence Centre «La Nara».

We take into account the way to approach the theme of online/offline violence with teen-agers (14-18 years old) adopted by the educators, when invited by school representatives of students in secondary schools and high schools across the province. This experiences, through use of non-traditional pedagogical tools show how it's possible to cooperate with the schools for educative interventions and to develop a dialogue with the students with topics related to cyberbullism as a matter of gender-based violence.

KEYWORDS: sexting, gender mainstreaming, gender-based violence, revenge porn, gender equality, education

Introduction

In the last years, the debate on risks related to web-based activity, with particular regard to younger users, has gained increasing attention both in academic literature and on a normative level in Italy: by the National Law L. 69/2019 «Codice Rosso», i. e. «Red Code», the illicit diffusion of sexually explicit material without the consent of the subject(s) involved is treated as a crime in its own right. Moreover, by the National Law n. 71/2017, a fundamental role is attributed to the education system with regard to cyberbullying prevention (Bagattini et al., 2018).

For what concerns web-related risks, improper communication and reporting on the topic may take the form of secondary victimization and discrimination between «good» and «no good» women (Abbatecola,

2021), as well as in the attempt to portray the «perfect victim» (Bagattini, Popolla, 2019).

From our perspective, educative interventions in the prevention of gender-based violence should be rooted in the awareness of web-related risks, promoting activities about social construction of the masculine of the feminine and about the theme of consent.

In this work, we discuss the risks of secondary victimization and we present an educational framework based on the experience of the Anti-violence Centre «La Nara» with students of secondary and high school in the province of Prato.

1. «Sexting» and «revenge porn»

In order to address the theme of this work, two concepts need to be defined: «sexting» and «revenge porn».

«Sexting» consists in «sending and/or receiving a nude or semi-nude picture/video or a sexual text-only message» (Fleschler Peskin et al., 2013) e.g. via mobile phone, although the term may apply to any digital media. Sexting, in the context of our work, is used to indicate a consensual activity between a sender and a recipient; we are not going to deal with non-consensual sexting which, as it is easy to understand, we consider an act of sexual abuse.

«Revenge Porn» is used to describe the sharing of private, sexual materials, either photos or videos, of a person without their consent, and with the purpose of causing damage, embarrassment or distress.

Despite its common use, this term is subject to criticism. According to Franks, it «is misleading in two respects. First, perpetrators are not always motivated by vengeance. Many act out of a desire for profit, notoriety, or entertainment, including hackers, purveyors of hidden or «upskirt» camera recordings, and people who distribute stolen cellphone photos. The term «revenge porn» is also misleading in that it implies that taking a picture of oneself naked or engaged in a sexual act (or allowing someone else to take such a picture) is pornographic. But creating explicit images in the expectation within the context of a private, intimate relationship – an increasingly common practice – is not equivalent to creating pornography. The act of disclosing a private, sexually explicit image to someone other than the intended audience, however, can accurately be described as pornographic, as it transforms a private image into public sexual entertainment. Many victim advocates accordingly use the term «nonconsensual pornography» (Franks, 2015, 2).

Furthermore, the term «revenge» may be semantically misleading, in that it implies a fault on the part of the original sender of sexual material, and calls for some form of correction, possibly by means of suffering (Abbatecola, 2021; Popolla, 2021). More than that, «revenge» doesn't fit with the public sharing of the people who share materials without

consent but they are often far away from an emotional involvement towards the main characters, such as a purpose of revenge.

2. A risk: moving focus of attention from the author to the SGBV (Sexual Gender-Based Violence) victim/survivor

Online violence is firmly anchored into gender-based power relations: according to The European Institute for Gender Equality (EIGE), cyber violence is a form of gender-based violence, «a growing global problem with potentially significant economic and societal consequences» (2017, 1) In particular «As with IPV (Intimate partner violence) experienced offline, cyber VAW (Violence Against Women) can manifest as various forms of violence, including sexual, psychological and, as growing trends would indicate, economic, whereby the victim's current or future employment status is compromised by information released online. The potential for violence in the cyber-sphere to manifest psychically should also not be discounted» (ibidem, 2).

The extent of this kind of abuse should not be underestimated, as the material may be shared endlessly, as it may affect the victim beyond her/his life context.

This connection seems to be underestimated, both from school and from public debate, both in the academic field, which often focuses on the link between sexting and web-related risks (Mitchell et al., 2011; Baumgartner et al., 2012, Migliorato et al., 2018).

A central role in prevention of SGBV has been assigned from the law to school (Law n. 71/2017), but the educative interventions is too often focusing on use, abuse and risks of digital media: projects developed for schools are often inspired from security issues rather than the principles of safety or gender equality.

The awareness in connection of gender-based violence with cyberbullism is still lacking (Bagattini et al., 2018), despite the promotion from European Institute for Gender Equality (2017).

More than one critical aspect is typical of this approach. First, an obsolete idea of separation between «real life and virtual life», mostly overcome in literature (Floridi, 2015, Scarcelli, 2015): any kind of work on cyberbullism cannot be realised without a full, clear discussion on inequality and differences in power relations also out of digital spaces (2015): «experts have warned against conceptualising cyber VAWG (Violence Against Women and Girls) as a completely separate phenomenon to 'real world' violence, when in fact it is more appropriately seen as a continuum of offline violence» (EIGE, 2017, 1). Another critical issue is represented by moving the attention from the author to the victim/survivor¹. Risk is a stigmatization of sexting and

¹ Lately in Italy in national chronicle, a headmaster fired a teacher at primary school after her private videos have been shared by her ex-partner without her

following, a stigmatization of those who practice it, even in the form of safe sexts as a way to express sexuality: sexting risks to be assumed as the miniskirt in cyberbullism², a practice which foreruns and causes sharing without consent. In this occurrence too, the obsolete separation in «bitches» and «innocent victims» legitimizes a sexual objectivation of their bodies». (Magaraggia, Giomi, 2017³; Abbatecola, 2021). Girls who practice sexting are not perfect victims with a status of purity and modesty, of weakness and need. (Bagattini, Popolla, 2019, 31): it's a way to blame sexters instead of identifying violent behaviors and violent authors.

As Popolla writes, we notice a lack of gender awareness in describing the issues: this kind of bullying appears to be a neutral phenomenon rather than an effect of strong inequality in power relations among genders (2021). Moreover, it's what the author defines «moral panic» to sexting as a negative effect, beyond the ones already described: the risk to be judged and be recognised co-responsible in the act of «revenge porn» can make the choice of asking for help or reporting much harder. This needs to be considered because there are difficulties for adolescents to report and for anti-violence network professionals, as shown in literature (Beltramini, 2017; 2021)

3. A different way to prevent and combat gender-based violence at school through the experience of anti-violence Centre «La Nara» in Prato, Italy

3.1. The experience at school

The experience of anti-violence Centre «La Nara» at school developed in more than 10 years of work in school taught that it is possible to have another approach to the topics related to SGBV. The anti-violence Centre «La Nara», which is part of the national network D.i. re – «Donne In REte contro la violenza», was born in Prato in 1997 and from the beginning it identifies in education a keystone in both prevention and contrast to SGBV. Unfortunately data are missing for the first years of activity; we

consent; these videos have been shared by her pupils's parents who blackmailed her. It has been defined by media as the «Turin teacher's case», giving attention on the woman victim rather than to perpetrator of the violence.

² The reference is to the advertising campaign «What Were You Wearing?» which was designed in USA in 2013 by Jen Brockman and Mary A. Wyandt-Hiebert. As described on the project website, «What Were You Wearing? is an art exhibit based on student-survivor descriptions of the clothes they were wearing during their sexual assault. These stories were collected from survivors at the University of Arkansas in 2013. The OSU exhibit curators have interpreted and recreated these outfits based on these survivors' experiences. » <https://www.forestry.oregonstate.edu/>.

³ The authors use the Italian terms «se la sono cercata», and «vittima innocente» (2017, 204).

know though that about 4500 students, most of them in secondary schools, have been involved as beneficiaries from the scholastic year 2008/2009 into the interventions realised at school in the district area of Prato. Not countable is the number of parents, teachers and part of the school community whom some projects addressed to, in the last ten years.

In our story as Prevention Team against SGBV, we reached about 4.500 students as a direct target of the interventions.

At the beginning we have often been reached by a teacher or by the school representatives for one-shot interventions with the task of discussing about femicide or identification of forms of violence. Then, thanks to public or private financial support, we started to get engaged into continuative projects about deconstruction of stereotypes and roles, rights, discrimination, violence composed by a number of 3/5 meetings per class. It gave us and the students the chance to face and deconstruct the cultural roots of gender inequality and its inner, legitimizing connection to violence.

Among the latest actions developed before COVID-19, mapping has been performed: in particular, it has been decided to assign individual surveys that up to that point were used 1) as an input instrument to stimulate the debates in classroom 2) as an analysis tool by comparing the same survey handed out in a second phase at the end of the project (Bagattini, Maurizi, 2017). The experience at school has been then repeated by modifying and improving the items of the survey in the project G.I.O.V.E. (Generazioni multi-culturali cOntro la Violenza di gEnere) realized during the scholastic year of 2019 in three secondary schools in the province of Prato. From the first analysis of the project, it must be noticed that the items, where a more relevant change in attitudes, behaviors or opinions especially among girls has been observed, concern those aspects in life which contact adolescents at closest: the study choices («there are more jobs and study courses suitable for boys or for girls») and the topic of jealousy as a proof of love. This is a central element of elaboration as Anti-violence Centre because we have noticed that it has a strong and recurring impact on gender roles in relations and because its implications with psychological abuse are often underestimated (Associazione Nondasola, 2014; Beltramini, 2020).

3.2. A model of intervention

In paragraph 2, it has been shown how the theme of online violence is often faced through the security framework, with a risk of stigmatization rather than in protection for the safety of the victims/survivors.

There are though other ways to approach the topic, by acknowledging the social-cultural roots of gender-based cyberbullism. This approach allows to encourage a careful analysis on structural roots of that kind of cyberbullism and its continuum with SGBV.

First, the educators don't use transmissive methods for teaching: it means that non-traditional pedagogical tools are the most effective ones

to build transformative relations towards the Self and the world (Gamberi et al.,).

Power relations of the space are modified in the classroom. The educators often have their interventions outside of the classroom, in the garden or in the gym, once even in a school canteen. Schedule time and spaces in class can be various and interventions are often hosted in the hall or during self-management reunions organised by students.

The chance to move from the area of the classroom stimulates curiosity and motivation for our request of participation even through a physical activation. A new frame to face contents in a different way. The tool used in this contest is the case study followed by a debate.

A case study is usually proposed to be read under a gender perspective: the analysis of a real story of online violence in continuum with offline violence, with an act of sharing intimate photos on social network without ex-partner's consent.

A debate is inspired by the proposal of the case study, in some cases forerun by a survey to discuss and to answer in small groups of students.

In the place of the tools inspired by paternalism towards free expressions of sexuality and obsolete conception of separation between «real life and virtual life», the use of a different methodology has shown that it's possible to promote an in-depth discussion with all-gender students about sexuality and equal relations. On the other side a serious reflection can be developed from a bottom-up discussion, on identifying new forms of gender-based violence and their connections with the traditional ones.

These experiences allow to point out some positive factors in educative interventions:

- Active role of students as transformative push-agents
- Bottom-up elaboration skills
- In-depth relationship with all-gender students
- Connections to new virtual forms of SGBV with the traditional ones
- Recognition of anti-violence Centre «La Nara» as Gender equality agency
- Increasing requests for educative interventions at school

What does it mean practically? The choice of making the students as active individuals of the intervention against SGBV focuses the attention to the students' needs and categorizations rather than to educative adults' beliefs/opinions. This is much more relevant when we talk about media and their use, in particular about their narratives of the emotional sphere. Even virtual contents cannot be «taken out» or criticised from an «outside». As Floridi's onlife concept teaches, let's start from the students' lives: from the awareness of the impossibility in separation of «de visu» emotions from virtual ones, the discourse on sexual and gender-based violence and constructions on being male, female or other non -binary gender identities must be considered. This process leads to a reinforced role of the Centre for the students as a recognized organism for gender equality, which accepts any kind of life experience, even the

most dramatic ones, lived in the role of the perpetrator, the audience or as the victim. It creates a good relationship to the Centre as an actor for cultural change thanks to prevention activities and individual change thanks to emotional and social individual counseling. An increase in invitations in educative interventions at school, both in class or during free reunions, is to be acknowledged with this kind of recognition.

These experiences helped La Nara to be recognized – recognition as a main issue for any anti-violence Centre in Italy – as a reliable agency with an authority in dealing delicate subjects at school: students in highschool ask directly for our intervention at school, for discussing facts from the main feed on Instagram, Twitter or from the news section of national TV channels. Maybe they are the same ones who have been involved in our projects in the secondary schools.

Another interesting aspect concerns the «protection activity» of the Center: after the project at school, increasing access of women and girls, usually the direct beneficiaries of the educative interventions, their relatives or people of their community, is registered (Cuccarese, Maurizi, 2017). Unfortunately, the current database structure does not allow a precise statistical analysis at local and regional level on this point (Bagattini, Popolla, 2018).

Conclusions

The experience of the anti-violence Centre «La Nara» demonstrates how it's possible to cooperate with the schools for educative interventions and to develop a dialogue with the students with topics related to cyberbullism as a matter of gender-based violence. In order to get this result, solid and continuous relationships to schools, to teachers and headmasters and to the students needs to be built up; in particular the tie with the students becomes important in the highschools, where students are active protagonists in the process of choice of the hosted activities. This relationship cannot be built but with closeness, which means to assure at school a mix of regular participation to SGBV prevention activities with non-transmissive, students-centred didactic methodology, always considering the differences in gender, race, sexual orientation etc. when we refer to students-centred methodology.

With these preconditions, all the occurrences of illicit sharing of sexual material must be read with the help of concepts like consent, gender-based violence, gender roles, avoiding any risk of stigmatization of the victim/survivor's behaviour.

In this experience there are though some critical aspects: despite the law has already assigned to school a central role about promotion of topics related to prevention of gender based violence (Pitino, 2020), this kind of interventions is still precarious: discontinuous in times and involvement of beneficiaries, made possible just for the effort of the most

motivated teachers, discontinuity with didactic proposal and school tools (e.g. school books, manuals).

Still is lacking a strong awareness from the world of school referring to the relevance of this topic for the students' relationships and their gender identity, as shown from the independent expert body responsible for monitoring the implementation of the Council of Europe Convention on Preventing and Combating Violence against Women and Domestic Violence (GREVIO, 2020).

Regarding many of the aspects considered in GREVIO Report, anti-gender movements have had no impact on our experience of work. Causes of this fact are due to different reasons: a strong social recognition in the community of the anti-violence Centre «La Nara», the support of the institutions, the lack of power of these movements in the area of Prato, the direct involvement of students in high school.

There is still a part of work which should belong to the anti-violence Centres: the collection of data regarding educational projects is still missing, in particular in relation to the impact on the other activities of the Centre. In a perspective of improvement, following tasks are to be pursued: networking, better communication and promotion of their own interventions and most of all mapping and measuring efficacy and impact of educative projects on the students and on the educational community (e.g. surveys).

The comparison with academy and with other professional fields of the research gives us the chance to improve from the point of view of collection, process and analysis of data of educational interventions.

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Masculinities in the Classroom: Gender Imbalances and New Models

Can Debating Gender Violence Be 'a Boy Thing'? Role-Distance Strategies and Masculine Performances in a School Setting

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ABSTRACT: *In this contribution I discuss the results of the Project The (un) reasons of violence [Le (s)ragioni della violenza]. Men at work, carried out in two professional schools of Veneto (Italy) in 2019. The Project was promoted by GRU (Men's Responsibility Group), a service dealing with men who have perpetrated violence against women, in collaboration with the anti-violence Ngo Iside (Venezia-Mestre). The activities implemented within the program had a double goal. The first was to investigate the relationship between social constructions of masculinity and gender violence, targeting boys' voices and views with the technique of focus group. The second aim was to involve students (boys and girls) in an anti-violence campaign to foster their awareness on this topic. To pursue this second objective, students were asked to carry on a small research and design their own anti-violence manifesto. As referent for the GRU service at the time, I managed three encounters and one focus groups for each class. The focus groups (one mixed, and one only with boys) involved an overall number of 21 students (13 boys). In addition to allowing the collection of narratives, the meetings were also an opportunity for participatory observation of doing and displaying gender among peers. Discussions were focused on two main themes: a) students' expectations regarding gender entitlements in intimate relations (mainly heteronormative, but not only); b) students' representations and 'explanations' regarding masculine violence against women in the society. Interpretation of results keep into consideration the situatedness of the discussion in the classroom, where anti-violence and gender equality discourse was realistically perceived as a binding norm promoted by the school institution. At the same time, I problematize my posture in the research (and education) field, as a man investigating, debating, and teaching about gender violence. Adopting an ethnographic approach, I consider here masculinity as a flexible and adaptable resource activated by boys to negotiate the definition of 'appropriate' gender identities and practices - coherent with the pro-feminist framework of the meetings - while reassuring their adherence to the male group solidarity and its tacit normativity. In other words, I consider how boys' adherence to pro-feminist anti-violence narratives and in favour of gender equality combine with role-distance strategies that reaffirms plural forms of masculine expression and solidarity, with ambivalent effects. Findings are used to reflect on the way masculine norms might adapt to gender equality and anti-violence discourses promoted by institutions (such as school) by reaffirming the implicit distinction between 'official' and 'practical' (masculine) rules of social life.*

KEYWORDS: *School; Anti-VAW programs; Men's studies; Boys; Symbolic Violence.*

Introduction

In this paper, I discuss the results of an exploratory research study investigating how boys (16–18 years old) discuss the topic of gender violence in a school setting. Two focus groups in two different classes were carried out as part of a broader research action aiming to involve students in designing an anti-violence against women (VAW) manifesto. The project was promoted by the creators of the Group for Men's Responsibility (GRU) program known as *The (Un)reasons for Violence: Men at Work*, in collaboration with two professional schools in Veneto region (Northern Italy).

One aim of the research action was to challenge men's silence in the public debate on masculine violence against women by stimulating boys' self-reflexivity on the phenomenon. This goal presented specific and recognised pitfalls, including the risk of bringing men's dominant voice, albeit renegotiated, 'back to the stage'. Another risk was unintentionally fostering the logic and rhetoric of masculinist protection (Young, 2003). In the following paragraphs, I present my analysis by answering the following questions:

How do boys make sense of anti-violence and gender equality discourses? How do boys' gendered representations of ideal masculinities change when appropriating this issue? What kinds of lessons might be taken from further actions to involve boys in anti-VAW campaigns?

Rather than focusing only on verbal and transcribed representations, the focus group approach allowed me to include social interaction dynamics in my analysis (Grønkjær et al., 2011). What I was observing and examining, in other words, was gender dynamics both in speeches and group interactions.

1. Investigating anti-VAW frameworks from boys' standpoints

Eve Sedgwick (1990) identified a particular epistemological privilege of men, namely that of defining what violence against women is or is not—in her case, referring to sexual violence and rape. This is a privilege that also consists of the self-attributed men's—and courts'—right to ignore what women consider to be violence.

In recent decades, this masculine epistemological privilege has been paired with a growing visibility of mobilisations and women's voices, feminist or otherwise, against gender violence in institutional agendas as well as in media. The issue of violence and harassment has also favoured

alliances between women of vastly different social, cultural, and political backgrounds. When it comes to violence against women, the space reserved for a masculine and unchallenged hegemonic discourse on bodies has apparently been restricted, or at least it has lost part of its taken-for-granted legitimation (Bimbi, 2010).

However, feminist-oriented scholarship investigating how VAW is framed in public discourse has criticised the way in which the issue is often represented. For example, the tendency to foster forms of moral panic while leaving aside a systemic interpretation of the phenomenon has been judged as a counterproductive mode of communication (Oddone, 2013). Thus, on the one hand, the emergence of women's and feminist voices in the public debate on VAW has succeeded in stigmatising and making visible different forms of masculine abuse, while on the other hand, criticism has been moved onto the subject of how public discourse might feed the greater opacity of the phenomenon itself.

The relative visibility of anti-VAW rhetoric in media has also produced certain shifts in the masculine politics of public reputation in terms of its formal alignment with gender equality and anti-VAW stances. Openly patriarchal and misogynistic postures and discourses are still present and tend to remain explicit in male-dominated arenas or circulate in specific media, such as the internet and social networks, within the rhetoric of victimhood or resentment (Ciccone, 2019).

In this context of transformation, «the spectrum of performative and discursive variations of masculinities in their relationship to violence against women, in the sphere of intimacy», as Oddone defines it (2020, 10, author's translation), have become a recognizable field of studies. Recent research, for example, has investigated and de-constructed the rhetoric of (men) perpetrators of domestic violence to interpret how masculinity, power and violence are intertwined (Oddone, 2015; 2017; 2020; Mullaney, 2007; Anderson, Umberson, 2001). The results show how violence is often denied, justified, minimised, or normalised and how it potentially affects everyone, and not just well recognizable marginal subjects.

We assume that these results implicitly detect a growing gap between how ideals of masculinity are formally reframed – as non-violent – and what the data on victimisation reveals. Therefore, Bourdieu's (1972) considerations on the symbolic economy of masculine ethos being based on tacit and shared categories, practiced rather than thought, seem to be particularly fitting.

2. Men and violence

The relationship between violence and masculinity has been interpreted as being deep and constitutive (Kimmel, 1993; Ehrenreich, 1997; Muchembled, 2012; Kimmel, 2013; Connell, 2013; Ciccone, 2019). In this

sense, men's experiences seem to oscillate between the pressures to incorporate an ethos of virility based on the capacity to enact violence (the 'factory of young males', as Muchembled defines it), and its inhibition and criminalization within pacified social spaces (Muchembled, 2012).

Violence can be interpreted as a masculine discipline in two ways: as an instrument to construct naturalised hierarchies between men and women and among masculinities and as something that must be painfully embodied to 'become a man'. The literature of men's studies has already stressed this double bind between violence and masculinity by showing how violence is part of the «guy code» boys are pressed to learn and act (Kimmel, 2008). Following Kimmel (2008), boys also learn *how* and *when* to use violence as well as its legitimacy and effectiveness. However, this relationship is not fixed over time, as it might change during the course of one's life.

3. Findings from focus groups

Adopting a perspective that interprets the symbolic violence of masculine domination as the cultural precondition of visible violence (Bourdieu, 1998; Bimbi, 2014), the discussion focused mainly on tacit agreements or expected gender contracts and entitlements in intimate relationships.

Both focus groups' discussions were about the same topics: a) students' expectations regarding gender entitlements in intimate (mainly heterosexual) relationships; b) the implicit or explicit rules of heterosexual couples; c) students' opinions on what should be considered or not considered masculine violence against women and on why this occurs at a systematic level.

3.1 *The mixed-gender focus group*

During the first discussion (a mixed-gender focus group), the boys (4) and girls (6) negotiated the expected rules of intimacy. A plurality of voices emerged in the girls' group, while only one boy tended to actively participate in the discussion. The display of some degree of tolerance with respect to violence as a tool for regulating interpersonal troubles was shared by all participants regardless of their gender. When Sonia¹ was talking about another girl who was perceived as threatening her relationship with a boy, she represented herself as able to enact intimate violence by saying, «I told to her: leave him alone or I'll beat you up». Another girl intervened to stress the point, affirming while other girls were laughing, «I would have already gone to get her and choke her neck! Boys also staged intimate violence in the public discussion. Violent behaviour was represented as a 'last resort' to re-establish the expected norms of decorum and was seen by the class (boys and girls) as

¹ All names are invented to respect the participants' anonymity.

deserving a gendered form of 'respect'. Umberto, amid other peers' laughter, affirmed:

Obviously, if I see her [my girlfriend] in a miniskirt and a bra, it is obvious that I will slap her twice [laughter]. The first time, I talk to her. The second time, I talk to her. But the third time, if she does not understand...

This public ritualisation of interpersonal violence as a tool to make things right was not a taboo during our discussion for either the girls or the boys. The social effervescence (laughter, hilarity) around the staging of violence could potentially serve other aims: escaping the status of passive victims (for girls), resisting the pedagogical violence of adults (for all), and displaying the boys' and girls' refusal of adults' reputational norms (also, a class-related representation situated in a vocational working-class school). Violent behaviours were staged, as opposed to what adults do in intimate and family life.

When the discussion focused on implicit norms among heterosexual couples, the boys' and girls' views converged in distinguishing, in general terms, legitimate and illegitimate forms of social control. By using three keywords, they distinguished between 'normal' jealousy and 'pathological' displays of obsession and possession. This general agreement lost its self-evidence when the girls and boys started referring to everyday life in intimate relationships. Both viewed the other gender as too controlling and invasive towards their personal autonomy. Both spoke from the virtual standpoint of partners in a couple and demanded to restore some form of control to preserve 'respect and loyalty'.

There was also implicit agreement on the idea that more sexual freedom for all automatically meant more sexualisation of girls' bodies as well as the imperative of conquering for boys, reproducing taken-for-granted ideas of women as desirable passive subjects and men as desiring active subjects.

Women's bodies were unsurprisingly the focus of the boys' worries, fears, and feelings. The female body is represented as a 'resource-weapon' that makes their intimate partners feel as if it is exposed to the gaze and the desire of others. The exposure of the partner's body is interpreted as an active infringement on the couple's norms because of its seductive power. The use of erotic capital (Hakim, 2010) by their female peers produces deep misunderstandings about women's claims to self-determination, even in narratives formally oriented towards an abstract idea of equality and reciprocity between the genders.

When debating about male VAW in society, the students implicitly stopped talking about themselves to focus on the «adults' world». Shared lay interpretations about the phenomenon were likely to reproduce the stereotype of an atavistic psychological weakness of men in intimate relationships with women. That was exemplified by the inability of men to let 'their' women go when intimacy gets broken. If the girls mostly agreed on formal rules of intimacy based on common agreement («just

leave me»), the boys represented women's rejection as difficult to manage for adult men («this is the point is where bad things start»). In this framework, men's violence is represented as coming from a victim and a weak subject who activates destructive behaviours primarily towards his partner or ex-partner but also towards himself. It was again Umberto who proposed this shared interpretation:

Women destroy men psychologically. Not always, but in some cases... Men feel more and more suffocated, and the only thing is either to kill her or to kill himself. ... You spend a long time with a person, and she is maybe the love of your life or whatever it is, and she does not want you anymore. You start to be more possessive because you see her leaving.

In this sense, Umberto anticipates a sense of resentment and masculine self-victimisation in the face of women's claims of autonomy projected into the years to come. Although not explicitly stated, men are represented as dependent on the caring resources of their partners, which are interpreted as always available and not retractable. The girls strongly reacted against this representation by stressing how this is already a pathological way to conceive intimate relationships («You are sick at that point!») and claiming the right to break off intimate relationships («Am I not allowed to leave you?! We are in the 21st century!«)

The boys' representation was paired with a similar one, framing intimacy and love as women's exclusive fields of expertise. Getting into adult-like relationships means leaving the group of peers to enter a relatively 'unknown territory'. Ideals of masculinity related to autonomy, self-control, and the capacity not to be ruled by others (women, in a specific way) are represented as being threatened by the capacity of women to re-socialise men in intimate relationships. Accepting the rules of loving relationships in this frame means also being dominated by a 'women's game' in which 'real' masculinity is under threat.

3.2 The second (boys-only) focus group

The second focus group involved eight boys. The conversation began with asking them what they expected from our discussion on gender violence. The participants reacted by referring to the problem of gender stereotypes, described in terms of the traditional role expectations of the past, such as the idea that «women should stay at home, wash, clean and look after children». The issue of violence against women, in other words, was immediately related to the permanence of backward gender asymmetrical expectations, typical of «old generations». As in the first focus group, boys and adult men were implicitly perceived as having different gendered norms and troubles, and VAW was perceived as an adults' problem (while bullying, on the contrary, was considered only a kids' issue).

In the first part of the focus group, provisory masculine leadership was performed in the debate by adopting pro-feminist stances. More than one boy, for example, expressed his opposition to the discrimination that makes women earn less even when doing the same job («it sucks!»). When staging a 'respectable and reasonable' discussion among men on VAW, certain provocations stood in the background.

Things became complicated when the focus shifted from general principles to everyday experiences. As in the first focus group, the students agreed on the distinction between legitimate jealousy and pathological obsession/possession. They also adopted individualising narratives to underline the alleged psychological fragility of men. They nominated men's mental instability, fear, and madness as key factors. To them, violent men are typically represented by «husbands who go crazy» or who are «blinded by grief».

Concerning their everyday lives, the conflict between gender entitlements was mostly recognised with regards to girls and women using their bodies seductively. Additionally, in this case, the boys' standpoints produced various misunderstandings related to women's self-determination. As Lucio put it, looking for other boys' complicity:

Why are they putting pictures of their asses on internet? Why do they have to sexualise themselves this way? Because they want to seduce...

Girls were accused by many participants of self-objectifying their bodies. Conducting the focus group, I stressed how this self-exposure does not legitimise masculine harassment, invasiveness, or devaluation. However, the boys agreed on expressing moral reprobation about it. This is a relevant point, as they were speaking in the language of gender respectability. This was one of the misunderstandings that this kind of discourse produces—focusing on what makes a 'good' man or woman rather than what is or is not violent in the masculine gaze, expectations, and behaviour.

This deep misunderstanding, which was also produced by the school setting of the discussion, became even clearer when we debated about male-only spaces, using the metaphor of the locker room. Speaking in a derogatory and trivial manner about girls is framed as a 'joke' that helps construct group solidarity. For a while, the discussion took this tone, as the students were trying to mimic these kinds of masculine 'masquerades' while assuring me it was just a game.

The boys describe these masculine rituals as being confined to specific places, also stressing how «contexts change, and you need to know how to behave depending on the situation». They also recognise that these rituals of masculinity may produce violent behaviour. However, no forms of reflexivity emerge with respect to the hierarchies that such rituals establish; for example, by normalising homophobic hostility among peers or by staging women's subordination to have fun among boys. The perceived danger is that «someone could take the joke too seriously», not

understanding that these masquerades of masculinity should be confined to the locker room. The distinction between the open expression of masculine heterosexual desire and the staging of the subordination of women and non-heterosexual masculinities is not problematised. By specifying their capacities to decline various forms of respectable or trivial masculinities in different settings, the students seem not to distinguish between 'good manners' and the issues of violence and prevarication.

4. Final remarks

We conducted this action research with the aim of investigating the boys' reception of anti-VAW discourse. We also wanted to reflect on the relationship between masculinities and violence against women.

The analysis of the boys' narratives has unveiled various misunderstandings, mostly focusing on women's uses of seduction. In this sense, we detected the tendency to confuse *conflict* and gender *violence* as well as the expression of boys' desire and the ritualisation of female subordination in a field of assumed gender equality.

The boys were generally reflexive about the different situated normativity they inhabited (at school or in the locker room). During the discussion, they formally recognised the need for a renewed masculinity with redefined reputational and respectability criteria. However, their interactions in class could also be interpreted as tacitly reproducing gendered norms that seem to contradict, at least in part, their formal alignment with anti-VAW discourses.

Some indications for further actions against VAW and ways to address boys may therefore be provided herein. First, the subjects' positions in their respective life courses should be considered, as patterns of gender violence and masculine respectability change over time and in different contexts. Second, interpersonal conflicts should be clearly distinguished from gender-based violence. Third, the norms of masculine and class respectability should be deconstructed along with practices that imply open or tacit forms of subordination and violence directed against women.

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**The Academic Work in Neoliberal Times:
Exploring Gender, Precarity
and Emerging Forms of Solidarity**

Academic Work during the COVID-19 Pandemic in Italy. Structural Factors and the Redefinition of Spatial, Time and Relational Boundaries

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ABSTRACT: *The pandemic represents a turning point which affects the micro-politics of managing productive, reproductive and social life in our new everyday lives. In this paper, we make a contribution to the recent and growing scientific debate by exploring academic researchers' processes of construction and de-construction of spatial, temporal and relational boundaries that take place in the pandemic work-life stay-at-home style. Particular attention is paid to some macro-structural drivers of work and family life, specifically to the role of gender and class, as well as to the organizational culture of the neoliberal university. We chose an exploratory, qualitative, non-directive methodology in order to grasp the permeability between the public/private and the work/life spheres. The empirical material consists of in-depth narrative video-interviews conducted online with Italian early career researchers and images collected through the native image making technique.*

KEYWORDS: *pandemic, gender, work-life balance, neoliberal university.*

Introduction

Due to the COVID-19 pandemic, many people have had to work from home, managing a distortion of temporal and spatial boundaries and deep relational consequences. An increasing number of people have worked and still work from home today, in Italy this is the case since February-March 2020. The confinement caused an encroachment of spaces, times and relationships, crossing limits and bringing to a renegotiation of boundaries between the public and the private sphere, family and work settings, online and offline intimate and working relationships.

This paper is the result of an empirical study focusing on the experiences of working from home in the academic sector in the first lockdown occurred in Italy in March-April 2020, in particular observing individuals in the early stages of their career (fixed term contracts). The academic sector has specific characteristics: wide use of devices and platforms; organizational autonomy, real or perceived; high levels of

productivity required in a competitive environment; significance in terms of gender inequalities (Gherardi, 2010; Van den Brink, Benschop 2011; Murgia, Poggio 2018; Ivancheva, Lynch, Keating 2019); class inequalities, precariousness (Weisshaar, 2017; Gaiaschi, Musumeci 2019) and a predominantly urban context (linked with small houses).

The experience of working from home is conditioned by structural factors, especially in the neoliberal academia (Zippel, Ferree 2015; Thomas, Davies, 2002; Poggio, 2018; De Coster, Zanoni 2019; Ivancheva, Lynch, Keating 2019) based on excellence (Rees, 2011; Van den Brink, Benschop 2012). Precarious and non-privileged workers have fewer resources, for example in terms of available space. Furthermore, on the one hand, for those who live by themselves it is difficult to have an online-only social life, and, on the other, because of the closure of schools, fathers and mothers need to supervise their children's activities full-time. In Italy, domestic and care work increased especially for academic mothers, seeming to already affect the scientific productivity of women (Manzo, Minello 2020; Minello, Martucci, Manzo 2020).

Seventy photos were collected, around thirty from academics. Research participants were asked to provide a picture «representative of home working during the lockdown of March-April 2020». The images were taken or chosen by participants and sent through an online platform. The native image making technique was used (Warren, 2019; Pauwels, Mannay 2019) in order to directly observe the social actors' experiences. Participants were also asked to provide some information through the same platform, such as the reason behind their image of choice and essential socio-demographic data. Furthermore, in addition to this rich visual material, 10 narrative and non-directive interviews with academics in the early stages of their career were preliminarily carried out, and the results of this first investigation were published in the journal *Italian Sociological Review* (Carreri, Dordoni 2020). Both the analyses for images and transcriptions have been conducted using MaxQDA.

1. Theoretical framework

The scientific debate on 'work-life balance' was born with the intention of overcoming the vision of 'separate spheres' for its tendency to reify the division of social experience into public/male and private/female worlds, and to overlook the interactions between them (Carreri et al., forthcoming). However, the key concepts in the work-life balance literature, especially the concepts of conflict and enhancement/enrichment (or harmonization), overlook the diverse, embedded, mixed and messy ways in which individuals manage their family, work and community life, not all of which fall within 'balance' or 'out-of-balance' (e.g. Gambles et al., 2006; Rajan-Rankin, 2016).

A line of studies placed at the centre of their investigation the concept of work-family boundary (Ashforth et al., 2000; Clark, 2000; Nippert-Eng,

1996), with which scholars refer to the ways individuals create clear boundaries between the different domains of their daily lives. Examples are segmentation, integration or more mixed processes (Kossek, 2016). This research has allowed for the study of the 'fit' between effective boundary practices and those desired by individuals (Ammons, 2013), and directionality of individuals' boundary practices to understand whether they tend to integrate or separate family from work or vice versa (Ashforth et al., 2000; Kossek et al., 2012).

Importantly, despite the explanatory capacity of the concept of boundary work', there has been no in-depth exploration into the practices, the meanings and the power dynamics which link the structural drivers to the micro-level experiences (Hughes, Silver, 2020). In a recent analysis (Williams et al., 2016) was already pointed out how work-life studies continue to move toward an individualistic direction, emphasising issues of individual cognition and decision-making, while neglecting the power relations and macro-structural drivers of work and family life, also in cultural terms. Work-life balance research needs to take into account multiple and interrelated levels in order to bring dimensions like gender, social class, migrant status, worker status, organizational and social context to the core of the debate about work-life articulation (Özbilgin et al., 2011).

By moving in this direction, we use the term 'boundary(less) work' to indicate the (predominantly) discursive and narrative practices by means of which boundaries are (de)constructed (Gieryn, 1983). Moreover, we deem crucial putting work-life 'boundary(less) work' into relation with the process of constructing gender boundaries (Carreri, 2015; 2020), and the interrelated dimensions of social class and family composition which are scarcely explored.

It is important precisely in this phase of the pandemic as gender inequalities have been magnified (e.g. Alon et al., 2020; Collins et al., 2020; Craig, Churchill, 2020; Czymara et al., 2020; Hjálmsdóttir, Bjarnadóttir, 2020; Manzo, Minello, 2020), also with specific reference to the university context (Myers et al., 2020; Minello et al., 2020; Yildirim, Eslen-Ziya, 2020). Importantly, especially in the early career stages, gender and social class differences are particularly marked (Murgia, Poggio, 2018).

Furthermore, many studies showed that academic women with care duties have an additional disadvantage (Bozzon et al., 2017; Ivancheva et al., 2019; Maxwell et al., 2019; Gaio Santos and Cabra Cardoso, 2008; Thun 2019). During the pandemic, female academics with children have especially struggled to reconcile work, domestic and care commitments with the consequence of producing fewer paper proposals and publications in scientific journals, thus possibly facing future negative consequences in their academic career (Myers et al., 2020; Minello et al., 2020; Yildirim, Eslen-Ziya, 2020). Moreover, in this extraordinary moment neoliberal universities have evaded their responsibility to ensure women with caring duties full participation in the academic work by

understanding work-life balance as a 'private' matter (Nash, Churchill, 2020).

These findings must be analysed in light of the changes in organizational culture, following the introduction within universities of neoliberal policies which promote a new ideal academic subject profoundly imbued with masculinity. Recent neoliberal policies have reshaped the academic world on the blueprint of a market (Currie et al., 2000; Poggio, 2018; Steinþórsdóttir et al., 2017).

New Public Management controls academics through practices that foster hyper-competition, including temporary contracts increasing job insecurity, funding pressures, and performance accountability measures (Ball, 2016; Clarke et al., 2012; Thomas, Davies, 2002). This literature has emphasised that these practices also exert control by enjoining individuals into self-definitions, identities and social relations aligned with the neoliberal norms of individualised efficiency and performativity (Brunila, 2016), accountability towards multiple audiences (Frølich, 2011; De Coster, Zanoni, 2019), academic entrepreneurship (Nikunen, 2014) and flexibility (Knights, Clarke, 2014).

2. Empirical Research

We conducted a qualitative study using non-directive techniques. During the Italian first lockdown period, we recruited a snowball sample of academics working in SSH fields. Specifically, we collected ten in-depth narrative video-interviews (Carreri, Dordoni, 2020). Additionally, through the native image making technique (Pauwels, Mannay, 2020) we collected more than seventy images by workers (plus sociodemographic information and the signed consent) by May 18, 2020. Thirty images were sent by academic workers.

This technique allows us to get closer to participants' experience without influencing their vision of the world and mines deeper shafts than do words-alone interviews (Harper, 2002), especially by overcoming the discourse of public / private dichotomy (De Coster, Zanoni, 2019). The analysis of visual material is still underway.

The use of visual methods and the native image making technique makes the research of particular interest also from a strictly methodological point of view. The use of information technology can have positive and negative effects on social research (Hanna, 2012; Lo lacono et al., 2016). However, conducting online interviews can be a useful method to carry out synchronous interviews when meeting face-to-face is hampered by external conditions (Janghorban et al., 2014).

3. First results

3.1. *Rhetorics of 'conquered time' and 'extreme neoliberalism'*

The researchers we interviewed highlighted how their job has always allowed them to mix times and spaces of private and professional life. Nevertheless, the spatial-temporal-relational dis-articulation occurred during the pandemic, and in some ways still ongoing, has brought about drastic changes in the daily lives of academics at home.

Our analysis sheds light on new ways of organising work-care-life that are discursively constructed using two main, quite different, types of rhetoric: the interviewees adopted either the rhetoric of 'conquered time', or one we could call of 'extreme neoliberalism'. Through these rhetorics, the subjects discursively constructed an image for themselves and for others that is coherent with their daily boundary(less) work experiences during the pandemic.

Importantly, both rhetorics shed light on the respondents' subjective experiences of the melting (spatial and temporal) conditions of work-care-life during the lockdown, and their perception of how productive' they have managed to be in this extraordinary period. We found that productivity in terms of paper publication is a common concern for all researchers interviewed, confirming the strength of the individualistic and competitive model of the Olympus in university (Benschop, Brouns, 2003).

By using the first rhetoric of 'conquered time', the subjects highlighted how the lockdown has allowed them to rediscover their own time, free from the frantic rhythms of academic work, which is described as mechanical and is compared to that of a factory. This type of rhetoric was linked to environmental' conditions such as the availability of large spaces. Time and space are indeed inextricably connected as time-space, which is socially constituted and shaped by power relations as different social groups have unequal access to and control over time and space dimensions (Massey, 2005). In this sense, this extraordinary period was experienced by researchers who adopted the rhetoric of 'conquered time' as a rediscovery, as well as a reclaim of care work (Fraser, 2016; Thomason, Macias-Alonso, 2020). Interestingly, those who adopted the rhetoric of 'conquered time' told us that they felt more productive in terms of devising new projects and writing. Having gained time for themselves, for reflection and introspection (Nowotny, 2018), they felt intellectually freer and more creative.

We defined 'extreme neoliberalism' the second type of rhetoric used by researchers to describe their new way of experiencing and managing productive, reproductive and social life by staying at home. Contrary to the rhetoric of 'conquered time', it emphasises the invasion of work, both in terms of time and space, into the home, completely changing its look. In terms of directionality, the subjects who adopted this rhetoric tended to integrate from work to the family (Ashforth et al., 2000; Kossek et al., 2012). Some researchers told us they felt «*productive in spite of themselves*», due to having maintained or, more often, increased the pace and workload in their daily life, but with great fatigue and stress. Productivity was therefore understood as workload and compliance with

deadlines, and not in the terms of creativity and originality that we find in the rhetoric of 'conquered time'. The qualitative dimension of time plays a central role (Adam, 1990; Leccardi, 2014; Nowotny, 2018). However, it must be closely linked to the material conditions of the interviewees, as already emerged in previous research (Rafnsdóttir, Heijstra, 2013).

3.2. Precarious and «squeezed» researcher mothers

Despite an increase in the involvement of fathers in housework and care work (Di Nicola, 2013; Ruspini, Crespi, 2016) during the pandemic, mothers took on greater care, domestic and mental work than before as revealed in other research (Collins et al., 2020; Craig, Churchill, 2020; Hjálmsdóttir, Bjarnadóttir, 2020). The mothers interviewed declared they did more housework and care work than fathers and had a greater burden following their children's online education during the pandemic, as found in other research (Guy, Arthur, 2020). These conditions inevitably had a negative effect on the productivity of academic females with care responsibilities (Myers et al., 2020; Minello et al., 2020; Yildirim, Eslen-Ziya, 2020).

Importantly, the consequences of the division of care and domestic work during the pandemic could have negative effects on the careers of academic women with children, especially if they are precarious. More than ever, the pandemic brought a 'crisis of care' (Fraser, 2016; Thomason, Macias-Alonso, 2020).

In line with recent research (Myers et al., 2020; Minello et al., 2020; Yildirim, Eslen-Ziya, 2020), our study shows that the COVID-19 pandemic and the lockdown have exacerbated the impact of the neoliberal university especially on women and mothers. Researcher mothers interviewed had much more difficulty in focussing on a topic, devising lectures and writing papers, they perceived stress, anxiety, tiredness. Moreover, we observed that de-structured and even disintegrated boundaries deeply influenced intimate relationships. Specifically, the mothers we interviewed felt «squeezed» between care and domestic work, remote research work and online teaching (Hjálmsdóttir, Bjarnadóttir, 2020; Malisch et al., 2020).

The researcher mothers interviewed, instead of the fathers, said they have been feeling «*not independent and autonomous*», «*forced to constantly ask*», and «*afraid of being seen as demanding*» by partners. We argue this was because of boundaries de-structuration or disarticulation, linked with the model of the neoliberal university. Gender inequalities stemming from this model (Poggio, 2018), together with the closure of schools and the forced coexistence at home, impacted on working spaces and times, and on the (in)stability of couples with children. The neoliberal norms of individualised efficiency and performativity produced friction, quarrels, sometimes leading to conflicts and couple crises.

Moreover, the neoliberal model is politically embodied in the processes of deregulation and privatisation of social services. In a context of neoliberalism and welfare state retrenchment, family policies do not significantly challenge long-standing class and gender inequalities, but they contribute to their perpetration under new forms (Ferragina, 2019). Certainly, the impact of the pandemic would have been less deep with better public policies for work and family responsibilities' reconciliation.

3.3. Living alone early career researchers

Single researchers with precarious employment have internalised the neoliberal model of research work: their work ends up absorbing all their time and makes it difficult to have time for themselves (Nowotny, 2018). In this model, the centrality of productivity overcomes the importance of product quality, which instead requires a slower pace of work and different rhythms for reflection and analysis.

During the COVID-19 pandemic, technological tools have been more important than ever before. As shown in recent studies (Watson et al., 2020), they have become instruments to preserve human sociality. In this case, these acted as surviving strategies to face the pervasiveness of working from home as well as loneliness, during what interviewees called «*interminable working days*».

The researchers who were living alone during the lockdown perceived a condition of alienation, due to the pervasiveness of work associated with loneliness. According to other research conducted in a different sector, fast working times and rhythms together with the lack of private time can bring to a form of time alienation (Dordoni, 2018; 2020).

3.4. First visual materials' analysis: the importance of gender and class issues

Our visual analysis, which is still ongoing, has allowed us to critically reflect (even more than the analysis of the interviews) on the binary vision of the concept of work-life balance, and on the concept of «balance» as a matter of individual choice, which recently have been criticized in the literature (De Coster, Zanoni, 2019; Fleetwood, 2007; Lewis et al., 2007; Özbilgin et al., 2011).

Mothers had to face a greater burden due to the «double presence» and the pandemic disarticulation of the borders which was exacerbated by the presence of their children, who during the first lockdown were always present even in the 'personal' moment-spaces of work, as shown in the collected images. The images show the «disintegration of borders» in the case of academic mothers, during the pandemic.

Moreover, precarious and not privileged Italian academics during the first lockdown had to «squeeze» time-space (Massey, 2013) of the private, family, work and social life in small apartments, while living and working with family members or roommates and children. They had to share the small space available and had difficult to reorganize home spaces to

reserve a personal work-space or create a precarious support for the laptop.

The housing issue took on great importance during the pandemic not only from the point of view of the availability of internal space, but also of the external one, e.g. balconies and terraces. In addition, housing in the urban environment or in a countryside setting, or the possibility of having a second home in a more pleasant and natural place, played a key role in the experiences of everyday life and boundary-work. Importantly, housing conditions are clearly linked to the dimension of the social class.

Conclusive remarks and future analyses

The paper has offered the first results of our research on COVID-19 pandemic's effects on academic working from home, which was conducted using qualitative and visual methods.

This research sheds light on subjective experiences of the disarticulation of boundaries and their intertwining with the neoliberal ideal type of academic researcher that have unequal consequences on the experience of work-life-care, time-space, productivity, and relationships.

Neoliberal university is characterised by high levels of productivity required, extreme competition, precariousness and temporary contracts in the early stages, fast working rhythms and gender inequalities, above all for academic mothers (Van den Brink, Benschop, 2012; Murgia, Poggio, 2018; Ivancheva et al., 2019).

Furthermore, the analysis has allowed us to critically reflect on the binary vision of work-life in the literature and the concept of 'balance' as a matter of individual choice. In particular, our visual analysis seems to make it clear how public and private are intertwined, and how the 'boundary work' during the pandemic has depended on, and contributed to reproduce, traditional cleavages, such as social class, gender and parenthood in neoliberal academia.

In the coming months, the preliminary results, especially those on gender and class issues emerged from the visual part of the research, will be investigated more in-depth.

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PhD Researchers Engaging with Academia: Four Generative Metaphors

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ABSTRACT:

CECILIA: All right, the paper's done. We're almost finished now. All we need is the abstract.

LEONARDO: Yes. Thank goodness. Let's get to it. Just a few words – well-chosen, and bold. Let's not spoil the whole thing, okay?

CECILIA: Yeah. Let's make it as bizarre as the rest, though. After all, an abstract's like a movie trailer, isn't it?

LEONARDO: Indeed. Okay. Let's begin.

An awkward silence falls between CECILIA and LEONARDO.

CECILIA: Okay. Look, let's make it, like, standard, okay? I don't really feel like working today. I don't even have a proper job at the moment.

LEONARDO: You're right. I'm with you. Let's make it quick.

A few minutes later...

CECILIA: Okay, that was easy. Let's reread it for a second:

The doctorate is a critical stage in the lives of subjects and institutions. In this paper, a post-qualitative approach has been mobilized along with metaphorical thinking and 7 interviews with PhD researchers in order to explore this crucial threshold moment. In particular, four types of engagement have been singled out through which doctoral researchers engage academia: i) the 'worship', in which they describe themselves as 'chosen ones' accessing the sacred place of knowledge production; ii) the 'play', in which they learn to play the 'game' of academia; iii) the 'safe harbor', in which they engage academia as a warm and intimate haven; iv) the 'Doom', in which they feel trapped and crushed by an imponderable System. Finally, a further transformative and critical engagement of PhD students with academia has been envisioned based on reflexivity and participation as tools for transforming academia.

LEONARDO: Quite extraordinary. Let's submit it.

KEYWORDS: *academia, PhD, metaphors, higher education, post-qualitative*

CECILIA frowns. She is thoughtful.

CECILIA: Okay, I suppose the paper is almost finished. Not sure what to think about this, though.

LEONARDO: What do you mean?

CECILIA: By doing this, aren't we somehow re-producing what we are challenging?

LEONARDO: Uhm. Yes. I see.

A gloomy silence falls between CECILIA and LEONARDO. They stare at their computers. Their shoulders are hunched. They look distressed.

CECILIA suddenly looks up. LEONARDO notices that. He is full of hope.

CECILIA: Wait. Maybe we can see this as something we did for *us*. Some kind of, you know, 'soul-searching' effort. Not only a 're-searching' one.

LEONARDO: Yes! In the end, this feels like going back over our life in recent years, isn't it? Except that it is not only *our* life, but those of many other colleagues.

CECILIA: Yeah (*typing on her computer*). Okay. I still find it weird how scarce literature has been produced on the doctorate and doctoral researchers. I mean, that's actually where academia is trained and socialized.

LEONARDO: There is that strand that we explored yesterday, in which the doctorate is addressed in terms of socialization and identity¹. And there is something on gender². But almost nothing on what interests us. Namely, the actual experience of PhD researchers, and how they engage with academia.

CECILIA: Yeah. Let's see what comes out from the interviews that we have made.

LEONARDO: They are only a few, unfortunately. And they all are with colleagues from SSH departments in Italy.

CECILIA: Indeed. They're just 7. But it is a starting point nevertheless, right?

LEONARDO: Sounds good. Let's begin with the metaphors, then. This is what we wrote yesterday:

Metaphors are 'world-making' devices (Gherardi et al.,; Goodman, 1978) inasmuch creativity and social imagination is developed by matching what is distant with what is close, similar features with dissimilar ones. Metaphors, therefore, emerge as invaluable tools for qualitative data analysis, since the elicitation of metaphors can bring new insights into the sensemaking processes of actors. Generative metaphors (Schön, 1979) are related to the act of reframing or discovering and creating new possibilities for actions that people had not previously considered. They are the means to generate new knowledge internally. They enable the reframing and discovery of knowledge and the creation of new horizons of insight.

LEONARDO: Wonderful. Let's just say that we are going to use four generative metaphors and a post-qualitative approach³ to explore

¹ See, for example, Tinto, 1993; Viernes Turner, Thompson, 1993; Golde, 1998; Weidman, Stein, 2003; Gardner, 2008; Jazvac-Martek, 2009; Gardner, Holley, 2011; Montalvo-Javé et al., 2016.

² See, for example, Brown, Watson, 2010.

³ Post-qualitative methodologies provide a set of questions to challenge some of the limitations and assumptions of conventional humanistic qualitative methodologies (Lather, Pierre, 2013; Benozzo, 2021). In general, the aspiration

through both unstable backstories and inscribed disciplinary textualities how PhD researchers engage with the world of academia, and how each metaphor brings to light different dimensions of the PhD experience. CECILIA: Okay. Let's begin by jotting down the metaphors, then.

1. The Worship: Pursuing a Sacred Quest

In the first type of engagement that we propose, scientific research is addressed as a sacred, pure, and heroic quest. We have chosen the metaphor of 'worship' to describe that.

Often, doctoral researchers develop this engagement already as students, as a sort of anticipatory socialization to the academic profession. They develop a strong attachment towards both knowledge and their mentor:

There was something about my research field that no one could explain to me. My supervisor could. They opened up perspectives for me – and I jumped right in. (PhD Researcher D)

My master's thesis supervisor told me I was very good. That's why I decided to continue this path. (PhD Researcher F)

When I took my dissertation supervisor's class, I fell in love with Sociology and realized I was actually passionate – that there are authors and theories through which I can see reality differently. (PhD Researcher E)

Therefore, soon-to-be doctoral researchers get passionate about some research topics, often with the support and encouragement of their mentor. They therefore feel like 'chosen' subjects that have undergone a form of initiation. That is because they can benefit from the possibility – and the privilege – of feeding themselves with knowledge directly from the source of its production, i.e. academia. This is an idyllic, ideal, and peaceful endeavor, in which PhD researchers, as contemplative and romantic heroes, can pursue the common good (Thévenot, 2001):

I was like, «Wow, I'm applying for a conference! So cool! It must be so hard to get accepted!». And then, «Oh God, they chose me! I'm the best and coolest researcher in the world!» (PhD Researcher D)

I dreamed of leaving my town and renting a small house. During the day, living from fishing. By night, writing my dissertation, like some kind of Hemingway. (PhD Researcher F)

I had a very romantic idea of the doctorate... *À la* Fellini – looking out the window would mean working. (PhD Researcher G)

of post-qualitative methodologies is to «produce different knowledge and produce knowledge differently» (Pierre, Adams, 1997, 175).

In this sense, this engagement coincides with a kind of illumination and unfolding of the research field. It seems to be very widespread in the early stages of the doctoral journey, even though it is unlikely to remain in the rest of the path. In fact, it often leaves room to a different and less enchanted engagement that takes on the features of a 'play'.

2. The Play: Staging a Drama

A different modality to engage with academia is what we define 'the play'. In this type of engagement, academia is experienced as a constant drama, a collective performance, a shared fiction in which the aim of things is in their form.

Doctoral researchers thus learn how to work and perform as academics, i.e., they learn the rules of the academic play. This engagement arises often through a double movement. First, the old fiction, which was based on the idea of academia as a sacred thing, is cut off. Then, a new fiction is introduced, wherein practicing academia means staging a drama.

Not all the interviewees react to this play in the same manner. Some comply with the rules of this game, and take advantage of them for professional growth and career advancements. Others are reflexive about these rules – to the point of mocking them – but do not challenge them as they wish to remain in academia. Lastly, some might even refuse to play, and practice rejection by counter-acting the academic drama. Subjective experience may therefore be different:

The PhD allowed me to wear many hats – at least one for every project I did. (PhD Researcher G)

Sometimes I don't understand what I'm writing myself. These are difficult topics – and no one reads this stuff anyway. Certainly, I write with polished, high-level language so that I can sound smarter than people think I am. (PhD Researcher G)

You have to be good not only at doing research, but also at building relationships and being in power dynamics, and having soft skills. You have to accept that and be comfortable with it. (PhD Researcher E)

When I go to conferences, I know that they don't really care that much about me. I know that I'm an extra fee for them, and that they need me. (PhD Researcher A)

In this continuous pretense, which can be differently engaged by doctoral researchers and other actors, academic practices and institutions are continuously produced and reproduced.

3. The Safe Haven: Entangling With the *Alma Mater*

Another metaphor that we would like to explore is that of the 'safe haven'. As shown, academia is sometimes experienced as a collective fiction enacted by stone-cold actors on multiple yet shared stages. However, there's more to academia than just that. In fact, it is sometimes experienced as a safe harbor providing comfort, serenity and ease to its hosts: a warm fireplace in the face of a hostile world which is filled to the brim with obscure dangers that lie in ambush.

In this type of engagement, the academic world is felt as something personal and intimate. It rests on «an accustomed dependency with a neighbourhood of things and people» (Thévenot, 2001, 16) while the sought good appears as a personalized 'feeling at ease'.

A communitarian dimension (Bauman, 2001) here exerts a powerful conservative and centripetal force that makes academic practitioners stick to the known, and keep away from the unknown. This happens, for example, on the temporal level, which is particularly relevant in this type of engagement. Time, here, is that of an infinite present, in which to linger indefinitely – forever, possibly. It is more convenient to stay on the marked path: the future, and any change, are too scary, full as they are of ambiguity and confusion. This is a sort of Peter Pan syndrome in which removing the future, surviving in the present, and (compulsively) repeating the past happen through the entanglement with one's safe haven:

You never know if you are a grown-up, or if you are still a kid. This leaves you in a marginal position – kind of on the edge. (PhD Researcher A)

I chose the PhD because I wasn't ready to 'cut the cord' with the university. (PhD Researcher F)

The emotional sphere seems extremely important in this type of engagement, which is based on multiple attachments to people, places, and affects (Gherardi, 2017). A key role is apparently played by the relationship of mentees/PhD researchers with mentors/supervisors. Often, the most subjectively important issue for mentees is to be truly seen by their mentors, i.e. to be recognized as subjects worthy of love and care. The emotional order of values, in this sense, appears more meaningful than the professional one. In fact, rather than mere professional interactions, these relationships often become very intense and powerful entanglements onto which mentees (and their supervisors) seemingly project biographical and familial narratives:

I was taken care of for a while, then abandoned when I most needed it. (PhD Researcher F).

When I told my supervisor that I might not want to continue with academia, they reacted like a hurt mother – almost as if I had told them that I didn't love them. (PhD Researcher A)

I would rival my colleague for my supervisor's attention and appreciation. We would try to be smarter and do things sooner and better. (PhD Researcher C)

Just like with my mother, my supervisor wouldn't tell me why I was doing it wrong. They was like, «You must not do that – because I say so» (PhD Researcher D)

Complex and sometimes tragic interweavings of love and abandonment, expectations and delusion emerge thereby.

4. The Doom: Fighting a Losing Battle

We have used the metaphor of the Doom to describe a further type of engagement. In this engagement, academia is experienced as a mechanism in which individual agency is overpowered by unidentified and imponderable forces.

A superior entity – a System, which acquires almost magical traits – determines the rules for competition in the academic field and thereby governs the fates of academics, i.e., their (temporary) permanence or (permanent) exclusion from such field. There is no actual way to influence (fight, resist, work around, etc.) this entity, and the rules of the game it determines. The only possible response is compliance, i.e. playing the game, and by the rules.

In this metaphor, the academic profession thus becomes a constant race not to be expelled from the academic field. In order to stay above the «minimum thresholds» decreed by the System, academics must continuously and relentlessly produce knowledge. In fact, often they don't even really know what these thresholds are: they are covered by complex bureaucratic layers, and they seem to move constantly, and self-regulate, if they want to. As far as they know, practitioners may well have already exceeded these thresholds; but they may also be far below. To be safe, it's best to keep running:

The system must filter, like fishing nets. Only a few shall pass through – those who have a certain 'gauge'. And you can only partially influence your gauge. It's not your fault, though. None of us really know what it is the mesh of the net they must try to pass through. Because that mesh is adjusted by the system. If it wants to exclude you, it tightens; if it wants to pull you in, it widens. What you do is not inherently enough. (PhD Researcher G)

Academics feel crushed by the weight of this Doom which is so much stronger than they are. Their past is made of indelible metrics that are constantly (re)produced in a never-ending trial that is held against them

– as in a Kafkaesque limbo, «No file is ever lost, and the court never forgets» (1937, 82). They cannot live in their present, as they live by a future that will determine if they will be allowed to remain within the field, or they will be expelled from it. It is an eternal loop between scientific production and reproduction of the System:

On the one hand, you are lucidly aware that your efforts are essentially useless in such an ineluctable and deeply competitive system. On the other hand, you continue to strive, and thus reproduce the system. (PhD Researcher B)

Perhaps, it is depressed people who seek academia, and, conversely, it is academia that makes people depressed. (PhD Researcher A)

This is a losing battle that engaged researchers cannot help but fight.

Towards New Metaphors

CECILIA looks away from her computer. She glances at LEONARDO with a hesitant look.

CECILIA: Anyway, sometimes I feel like I'm just sick of writing.

LEONARDO: Yeah. I know. I do, too. That's actually where we started from when we first talked about this research, right? The fact that sometimes this all seems a bit, you know, meaningless.

CECILIA: Meaningless. Distant from reality. From people. Sure, you can always talk about 'public sociology'⁴, applied sociology, intervening in society, changing the world through academic practice. But, at the end of the day, you will find yourself playing with some weird concept that only your scholarly community can understand.

LEONARDO: Maybe this research has put us down a bit.

CECILIA: You mean, more so than before?

LEONARDO: Is there really a limit to that?

CECILIA: Ugh. Anyway – maybe that is why we can't find a conclusion. That is why we can't get beyond these four gloomy metaphors.

LEONARDO: Yeah. I don't ever want to write what I don't really enjoy writing. And which doesn't give me a little hope. Do you know what I mean?

CECILIA: Yes. I agree. And, you know, maybe we can use just that to close the paper.

LEONARDO: You mean, a bit of hope?

CECILIA: Yes. Like, we propose a fifth metaphor about the engagement of doctoral students in academia. But, this time, something different. Something that might not be there yet, but could – and should – be.

⁴ See Burawoy, 2004.

In this paper, through metaphorical thinking and interviews with PhD researchers we have attempted to show some ways through which doctoral students engage academia. On the one hand, these types of engagement are not mutually exclusive. Competing rationalities and orders of worth coexist and clash within the same subjects who must continually compromise with these different parts of themselves. On the other hand, other types of engagement certainly exist that we could not observe with our investigation.

The doctorate is a critical stage in the lives of subjects and institutions. From the subjects' perspective, it is a fundamental threshold in which they grow from undergraduate students into academics through multiple processes of socialization (including anticipatory socialization) and engagement. From the institutional perspective, it is a moment of (re)production of the academic profession and class that is perpetuated (and possibly transformed) through the intertwining of training by supervisors, organizational dynamics, and student subjectivity.

These processes are not neutral or automatic but rather influenced by socio-cultural aspects that characterize how teaching, learning, and everyday organizational life happen in the university. Certainly, the impact of the new public management in global and Italian universities has been strong as its logics of efficiency, accountability and quality hardly fit with the idea of a public and inclusive education (Gunter et al., 2016).

In this sense, there is room for improvement in higher education and academia, and this transformation can begin by liberating different engagements for PhD researchers with academia. No longer then – or not only – fictitious or bleak ideas of worship, play, safe haven, or Doom. Rather, it seems possible to construct new engagement in academia as transformative experiences based on subjectivity, criticality, freedom, and participation (Barnett, 1997).

This means enabling a reflexivity effort within academia about its own practices. Moreover, this is about challenging the marketization and neoliberalization of higher education and academia (Gunter et al., 2016; Normand, 2016), towards a vision and practice of higher education as a common good (Marginson, 2016).

This emancipatory engagement in academia can happen through high-level policy. Not only that, however. All practitioners in academia can work toward its realization, by putting it into practice as a daily and caring work: from teachers training, to efforts toward scholarly integrity, to organizational design, to curricular planning in doctoral programs.

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Between and Betwixt: Experiences of Academic Precarity and Resistance During COVID-19 Pandemic

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ABSTRACT: *This paper reflects on our joint gendered experience of precarity in UK Higher Education; a conversation that started during the pandemic as a means of negotiating a joint sense of liminality and disorientation during this period. Academic precariousness impacts women specifically (Zhang, 2018), and through an auto-ethnographic exploration, we argue that we find ourselves constantly betwixt and between in terms of working conditions, career development and research, and this has been exacerbated during the pandemic. Our experiences of liminality are inextricably linked to time, the nature of which shifted during the health crisis. For precarious academics, time is always in short supply. The increased pressure to publish and to develop means that even though research takes time, the desire to take this time is often in direct competition with the 'publish or perish' conditions of neoliberal universities (Mountz et al., 2015). Furthermore, precarious academics often experience time running away from them, with a constant feeling that they are running out of time. This is especially so as precarity is often long lasting rather than short term, and a source of anxiety for most early career academics. The pandemic has further intensified this experience of liminality and anxiety for us. Moreover, there has been the imperative that the pandemic, and especially the lockdown, should be seen as a fertile time for research, or for catching up whilst for many academics on fixed term contracts it has also been a time of great uncertainty. Our analysis, therefore, focuses on our experiences of being between and betwixt as women academics, our positionality in the academic field, our strategies, our moments of failure and resistance as well as the strategies we have developed against precariousness during the pandemic. It is our view that in order to build effective strategies to support precarious academics we need to understand the impact that the timeframes imposed by academia have. We, therefore, view precarity as a liminal space in which exploitation and resistance coexist. In the context of COVID-19 we will discuss how increasing acceptance of remote working has led to increased networks of support and accessibility. Finally, we place our discussion of precarity in academia within the wider phenomena of precariousness within capitalist societies and the rise of the 'attention economy' (Odell, 2020), where, as in academia, time is linked to productive activity.*

KEYWORDS: *Precarity, Gender, COVID-19- 19, feminism*

Introduction

This article discusses the process of coming together, reflecting on and planning against academic precarity during the pandemic as women early career academics. We focus on the paradoxical position of being between and betwixt institutional structures and the impact this had on working conditions, career development and research. Drawing on partly auto-ethnographic work (currently in initial stages) we reflect on time as a resource, our creative labour, our publication strategies and the possibilities of resistance to neoliberal academia in the time of COVID-19.

At the outbreak of the pandemic last year (2020), we came together (we met online via a common friend and colleague) with the intention to support each other, collaborate and enhance our creativity. This was a reflexive response to a general sense of disorientation and confusion brought about by the pandemic and we aimed to work imaginatively and support each other both intellectually and psycho-emotionally. Furthermore, we were motivated by the idea of care, support and collective work as an antidote to our precarity, in line with our feminist ontological and epistemological standpoints.

In the past decade, the concept of precarity has had a prominent position in debates around work, employment and class. Standing (2011, 2014) introduced the concept of precariat to discuss and present the conditions of uncertainty primarily characterizing the gig economy as an employment sector in neoliberal times; whilst arguing the emergence of a class formation composed by individuals in precarious, short term – often underpaid employment who experience constant existential uncertainty. Despite criticisms of his class analysis, Standing has contributed majorly in highlighting the phenomenon of precarity as a state of being and as an issue of work.

Precarity as a condition of work and life insecurity is a widespread phenomenon across industries, but academia has become one of the most precarious industries in the UK. Research by the University and Colleges Union (UCU) (2020) found that 46% of UK universities and 60% of colleges use zero hours contracts to deliver teaching 49% of teaching only academics are on fixed term contracts, 42% are on hourly paid contracts and 68% of research staff in higher education are on fixed term contracts with many dependent on short-term funding for continued employment. In 2019-2020 two sets of strike action took place across the sector and precarity and casualization was one of the key issues on the agenda. Precarity in academia can be characterised as having a material impact through unstable contracts, poor pay and unpaid labour. There is also a psychological impact, with difficulties maintaining work life balance and imposter phenomenon, where a person does not feel good enough, or a feeling of 'intellectual phoniness' (Clance, Imes, 1978). Scholarship on academic precarity is steadily growing, highlighting the shifting nature of the academic profession, and the spread of casualised work, Increased inequalities are being

engendered especially at entry level and this is very much associated with structural and managerial practices within institutions (Ivancheva, 2015; Morgan, Wood, 2017).

Discussions on the subjective experiences, trajectories and struggles of early career academics especially women and/or people of colour and other minorities, have also emerged (Hartung et al., 2017; Zheng, 2018; Taylor, Lahad, 2018; Manchi 2020); Our research contributes to this growing body of research by exploring negotiation of precarity and its impact on our experiences of time, belonging (or not belonging), imposter phenomenon, life and work balance and solidarity.

Literature on strategies of mobilization, individual and collective resistance has also contributed majorly to the understanding, conceptualisation and analysis of academic precarity (Gills, 2017; Garvis, 2018).

1. The Autoethnographic Approach.

We embarked on a self-reflexive exploration of academic precariousness, where our own experience became the basis for our analysis. We agreed on a collaborative autoethnographic approach. Chang, Ngunjiri and Hernandez (2012, 17) describe Collaborative Autoethnography (CAE) as 'a qualitative research method that is simultaneously collaborative, autobiographical, and ethnographic.' We have, therefore, chosen this approach to examine and reflect upon our academic trajectories as early career researchers and teachers in order to understand and contextualise the commonalities and divergences in our experiences (Chang et al, 2012), and analyse how these reflect and map on the state of academia today.

Self-reflexive analysis has been historically embedded in anthropological work and further used by sociologists (See Bourdieu, 2004). Nevertheless, autoethnography has a history of interdisciplinary use (Bartleet, Ellis, 2009) to situate oneself in complex settings and social milieus and understand one's personal journeys and trajectories during the life-course. CAE was a rather reflexive and organic response to our intellectual interest in the phenomena of precarity but also to our personal circumstances. Motivated by the idea that writing the «self» transforms the personal into political (Ettore, 2017:2), this methodology aligns with our ontological, epistemological and ethical standpoints as feminists. According to Clarke (2005:34) autoethnography constitutes an authentic method that situates research and reflexivity into the shifting landscape of personal emotions and affective responses. In this light, we consider that our experiences and our evolving interpretations of these experiences are central to the understanding of academic precarity. As Allen and Piercy (2005:156) argue, autoethnography is concerned with «telling the stories of those who are marginalised and making good use of our experience». Even though the extent of our marginality is relative

to a complex nexus of positionings between ourselves and others, we do see this self-reflexive account as a means of raising consciousness (Ettore, 2017:4) around phenomena of precariousness and othering in academia.

As women academics in the fields of Cultural Sociology and Media Studies respectively, we consider the different strategies we used to support each other and resist the new wave of insecurity initiated by the pandemic. Our experiences are both typical of the sector as well as individual and specific and they link our academic trajectories into the focal point of the COVID-19 outbreak. Through a collaborative approach we jointly objectify our autobiographic data interrogating the neatness and coherence of our narratives and enhance our reflexive and ethical approaches (Lapadat, 2017, 598).

We are aware that our cases cannot be understood as wholly representative, but at the same time we also see the value of linking our specific individual experience to the wider context of precarity in UK Higher Education. We feel that it is important to place the discussion and analysis of academic precarity within the context of our experiences and also to be clear that our experiences are illustrative but not definitive.

I Lito, a sociologist by trade, have been in post PhD precarity since I completed my thesis in 2012. I have been mostly occupied in hourly paid and short-term contracts of primarily teaching nature, and only very recently (since, 2019), have I managed to be employed for longer periods of time yet in fixed-term contracts. I have juggled a variety of posts and duties at the same time and have been less able to publish. I have, however, been able to secure continuous academic employment with the exception of a recent career break. Whilst this is relatively typical of the experiences in the sector there are some advantages and disadvantages embedded in my circumstances. By writing myself and reflecting on my pathway, successes and failures and conversing with Claire I am able to render visible some aspects of inequality that link to my access (or lack of) to academic work and stability.

I, Claire, completed my PhD in 2017 in Feminist Media Studies. Although my PhD funded my fees, I needed to find employment throughout the PhD to cover living costs. I have, in the past ten years worked as an examination invigilator, a research administrator, a part time lecturer and in a university accommodation office. Prior to my first full time academic contract in 2019, I mostly taught in hourly paid positions which necessitated finding other employment outside of term time. The contract for my first full time academic post ran out in June 2020 and I have spent the past year working in an administrative position in a university. Although this role has provided me with stability and I enjoy the work, it has also made it more difficult to find time to research, something I had also found previously when in very teaching heavy roles. In general, my career trajectory reflects the precarious nature of the industry and the need to constantly look for the next opportunity in order to remain in the sector.

We came together at the outbreak of the pandemic in an attempt to explore the possibilities of what we felt was a significant break in the order of things, one which necessitated care and support but also created opportunities.

2. The Pandemic and the Imperative to «Be Productive».

The pandemic heightened the sense of precarity throughout UK higher education, especially for staff on fixed term and hourly paid contracts, many of whom found themselves made redundant at the height of lockdown (Batty, 2020). Although precarity is an issue for academia as a whole, Media Studies and Cultural Sociology as fields within the Arts, Humanities and Social Sciences are marginalised in the UK. Greater emphasis is placed on funding and research in Science, Technology, Engineering and Mathematics (STEM). Recently, the UK government has announced plans to cut up 50% funding in Humanities, Arts, Media and Archaeology (Bakare, 2021). Most recently, this cost-cutting has been extended to redundancy schemes at a number of universities (for example the University of Leicester and University of Liverpool, both of whom are subject to a boycott by the Universities and Colleges Union due to their redundancy schemes, (UCU, 2021)) as well as the removal of whole programmes usually within the Arts and Humanities.

At the COVID-19 outbreak both of us worked in teaching and admin heavy positions while both of us changed jobs during the year. This period was characterized by a sense of disorientation and confusion as the abrupt halt that the pandemic entailed altered our experiences of work, research and teaching. Working remotely and exclusively online entailed some retraining and shifts in academic practices, while workloads transformed in order to support the delivery of learning and teaching with an equivalent pause or deduction of research. The latter came as an official policy across several universities in the UK.

However, for us as Early Career Academics in precarious positions this period entailed new anxieties primarily exemplified in efforts to plan and strategize in order to pre-empt the consequences of the pandemic. The outbreak of the worldwide pandemic left us disoriented and confused, while it entailed an unparalleled restructuring of work and intellectual practice. Work was somehow reconceptualised as an emergency targeting different priorities and employing different strategies. Yet, somehow, Early Career Researchers were faced with a dilemma to either accept the pause or find ways to adapt to it.

This dilemma had practical consequences around decisions on two fronts: job security and publishing, which are inherently interconnected. On the one hand, for precarious academics, especially those on fixed term contracts finishing in the early months of the pandemic, there was the additional pressure of reconceptualising what it meant to do academic work and teach in the pandemic, whilst at the same time

looking for a new job. Both of us sought jobs during the period 2020-2021, one of us changed jobs during the first phase of the pandemic, while both have moved on to new roles to date at least once. Although such shifts have been an integral part of our post-PhD experience, these were particularly intense in view of a potential market crisis as a result of the pandemic as well as managerial decisions in Universities across the UK to reduce non-permanent staff.

This enforced a feeling of liminality, namely being between and betwixt, almost in limbo yet in the process of transitioning into different academic states. Short term contracts make it more difficult to be embedded within academic departments and cultures, whilst the constant need to search for the next job leads to a sense of displacement and uncertainty. This feeling has been exacerbated since the pandemic as everyone has been forced to adjust as academic work was reconceptualised and restructured. In an academic job market that prioritises research activity, additional pressures to maintain research productivity whilst everyday life has been completely upended. This is not confined to academia, with the claim that William Shakespeare wrote *King Lear* during the quarantine necessitated by the Bubonic Plague often repeated on social media as suggested motivation for contemporary creators (Dickson, 2020). However, such implorations suggest an almost robotic ability to ignore the trauma of the pandemic.

The pressure to publish has increased in recent years, in part as a response to the Research Excellence Framework (REF). The results of the REF determine university research funding and a good REF result can lead to prestige for universities. However, the REF also adds additional pressure for early career academics who are expected to remain intensely research active whilst also managing precarity and all of the additional labour that entails (Walker et al., 2010), describe how:

The publication pressure has clearly become visible and has materialized in a number of practices. Over time the productivity of scientists and universities in terms of publications and citations has become more important as a determinant of individual and organizational rewards.

For precarious academics, many of whom have no research time as part of their contracts, including ourselves, this pressure is further intensified by the need to parlay publications into job offers in order to remain in academia. In this sense then, publications become less about the content of the research and more about their usefulness in making the author employable within a highly competitive environment. One of our first thoughts as individuals was to find ways in which to work towards publishing as time was reconfigured in our profession. We tried to work in this direction knowing that women academics have been disproportionately impacted by the pandemic, especially due to school closures and an associated increase in childcare responsibilities. We were also becoming aware that the submission rates for publishing work have

significantly decreased for these reasons (Francis- Devine, 2021). In this light we decided to embark on an exploration of our joint interests, our own experiences and writing as an antidote to uncertainty, precarity and major change.

3. Solidarity, Care and Support

In this light, we consider that whilst this has been a time of great uncertainty, it has also been a time of opportunity for solidarity, collaboration and support. When we began working together, we were motivated by a feminist standpoint and a collaborative spirit.

Heijstra and Pétursdóttir (2021) note the importance of solidarity and care between feminists within academia, whilst Acker and Wagner (2019, 75) refer to the 'the clever and creative solutions' that they describe as 'workarounds' for feminists in the neoliberal academy. Collaboration can be an important source of support and empowerment, both as a way to share common experiences and lend expertise. According to Acker and Armenti (2004, 17) networks of support are important for women in academia. In practice this entailed coming together to respond to a call for the creation of an open-source document/resource on doing research in the pandemic. It was the first attempt to write together about what we had in common, namely researching precarious cultural producers and artists, and specifically women stand-up comedians and ballet and contemporary dancers respectively. In other words, we decided to focus on artistic precarity and the links between that and our own liminal position. We then decided to explore and write about our own experiences of precarity in academia taking the pandemic as a focal point and a point of culmination of the tensions we experience as Early Career Academics. We decided that joint writing is creative, supportive and resistant to the individualised neoliberal construct of the single knowledge producer, to the individual successful academic. Moreover, we considered that collaborative work and different expertise offers greater insight into the phenomena under study.

However, whilst it is important to acknowledge the ways that women support each other, it is also important to consider the extent to which operating within existing academic structures can lead to exploitation sitting alongside collaboration and care. In many cases, the labour that goes into creating networks of care and support are not recognised or accounted for, even though the outputs that might result from them are. There is, therefore, a contradiction between the potential benefits of taking up opportunities and resisting neoliberal imperatives within academia whilst also acknowledging the potential of being exploited by the academy at the same time.

The pandemic exemplified this paradoxical state of being between and betwixt exploitation and creativity, of being in a transitional state where

time and work acquire new meaning even though determined by established neoliberal principles.

Conclusion

The pandemic has brought the issue of precarity in academia into sharp focus. However, it is important to consider precarity as an issue that has persisted within academia for some time, to the extent to which it can be considered ingrained in the industry. This leads to challenges in trying to oppose precarity, and precarious academics often find themselves existing within a liminal space. On the one hand, precarious women in the academy often benefit from collaborative approaches and networks of support, as we have. On the other hand, such collaborations are labour that is often not recognised and goes unpaid. To be a precarious feminist academic is to inhabit states of resistance and exploitation at the same time and often this liminal position highlights the challenges of resisting within the existing system. However, we also recognise the extent to which collaborative approaches provide an opportunity to counter a largely individualistic academic culture, and that it is only through the prioritising of collaboration and care that academic culture can truly change.

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**Educating for Gender Equality
10 years after the Istanbul Convention:
Towards an Overcoming of Stereotypes
and Prejudices in the Social Representation
of Gender Relations**

Watching Pornhub: Gender Stereotypes in the Representation of Pornography Consumption

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ABSTRACT: *Pornhub – the most famous porn video portal in the world – is a privileged point of observation to investigate how an intense relation with porn has permanently entered collective imaginary and sexual practice for men and women. A universe, not too long ago controversial and traditionally enjoyed by men, now gains a significant role in women's sexuality. Our analysis is going to focus on women's pornographic consumption. The first part of the paper will be dedicated to a historical reconstruction of the relation between female audiences and pornographic texts. On the basis of Pornhub data (2020), we will then investigate the use of pornography by Italian women: favorite categories, time spent on pornographic videos, selected vision devices. The final part of the work will reconnect the metamorphosis of perspectives to the change in the production strategies in the pornographic economy. It's important to reject the rigid gender binary places men as agents and women as passive in the representation of porn audience.*

KEYWORDS: *Pornography; Stereotypes; Audience; Sexuality; Media*

Introduction

This study aims to analyse contemporary pornography as a cultural form and as a topic able to question and deconstruct persistent but still, as we are going to see, not immutable gender stereotypes.

The intense and widespread relation with porn has now permanently entered men and women's collective imaginary and sexual practice. Enjoying porn does not seem to be any more «outrageous»; data show Italian women to have intense activity as users of porn websites. In order to understand the reasons for this change, a first consideration must be made in relation to the ways porn is enjoyed. These have in fact eliminated certain rituals and places of enjoyment. Pornhub – the most famous portal of porn videos in the world – has been among the first websites in the pornographic industry to eliminate access barriers to the product making it available anywhere and at any time. Semantically, therefore, porn contents become «ordinary» contents, almost trivial in the way they are easily available and accessible. Over the year, the platform has received over 42 billion visits with an average of 115 million visits a day. In this general standing, Italy ranked seventh among those

countries generating more traffic on the website. Moreover, a constant growth in the number of women enjoying pornography is reported (Pornhub Insights 2019). A universe, until not so long ago controversial and traditionally male-centered, that now finds a significant and stable place in women's sexuality. The increase in female audience on Pornhub and the categories that women seem to prefer, bring about also some changes about the kind of content that are being offered by pornography. The analysis of Italian women's favourite categories, of the time women dedicate to porn videos and of the devices chosen to enjoy them, is going to outline how much pornography is more and more perceived as a socially legitimate kind of entertainment. Data on female users are going to let us think about how pornography, as a language degrading women's body, can be placed alongside a kind of porn created by women and designed by women, centred on female desire, rather than men's gaze.

1. Scientific debate

Women's erotic imaginary for decades has been considered as nourished only by romance novels, that is by tales by no means explicit, contextualizing sex romantically, implying a more romantic than erotic interpretation of female sexuality. An intimate and verbal female sexuality, «process-oriented» and complex, in contrast to a male visual sexuality, direct and «performance-oriented». The scientific debate on pornography has for long taken its cue from the observation of a sexual objectivation of women, subject to «domineering-men». The pornographic industry represented another area where male rule established itself, an instrument of control on women (Ashley, Ashley, 1984; Vivar, 1982), commoditising desirability and reifying female body (Sissa, 2014). In this perspective, in the pornographic universe women would be subservient, reduced to just some parts of their body, degraded. However, there was another point of view that almost glorified pornography as enhancement of pleasure, subversion against family order and full expression of dignity of minority sexual practices (Ogien, 2005).

Porn means talking about sexuality, femininity, masculinity. A topic that in literature has found strong resistance, considering the negative impact of pornography on women's life and sexuality. A dangerous pornography objectifying and dehumanizing the represented subjects that, in most cases, are precisely women. From this point of view, expansion of material on the Net and easier accessibility of contents would increase these risks, obliging, for example, women to see themselves represented in non-realistic bodies: women would in this case see sexualized images of female bodies, later feeling inadequate. This perspective is contrasted to another approach, exalting the value of pornography, as an opportunity that women have to gain more awareness of their desires, their bodies, their sexuality (Rothman, 2015).

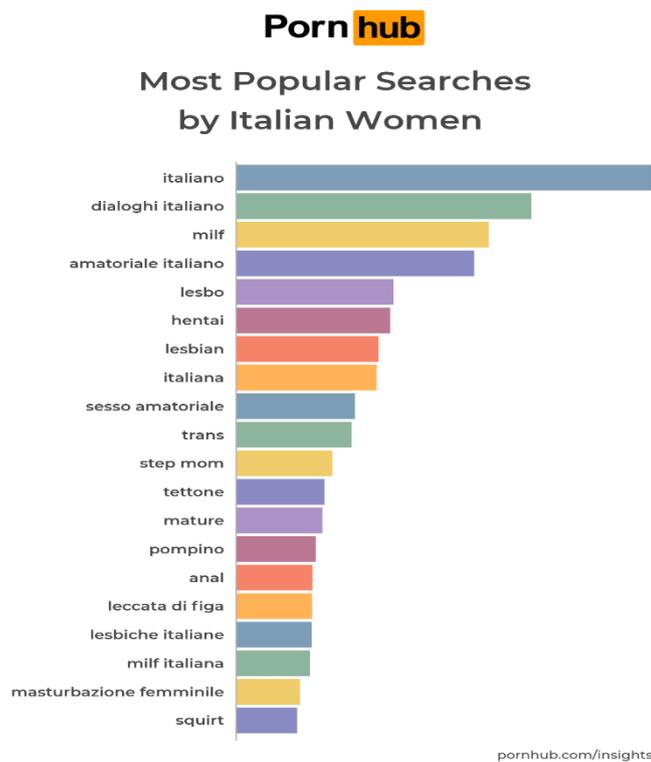
Over the time, from story-writing, going through mass media, up to the web, porn has been expanding and both representation and enjoyment formulae have changed (Mascio, 2009): from a perversion enjoyable through illegal media to a multiplication of icons on the screen, accessible with a simple click. Not only pornographic production has quantitatively multiplied, but in recent years a process of diversification, always trying to catch new market targets, has taken place. Contents offered are therefore more and more segmented and are categorized through the proliferation of genres and tags. It's not anymore about breaking a taboo. It is actually about finding legitimization to one's fantasies. Technological innovation has made every pornographic content easily accessible through smartphones and tablets, protecting consumers' privacy, ensuring anonymity, thanks to an easy and, in most cases, free search for genres and styles (Ribeiro Neto, Ceccarelli, 2015).

This expansion of the «pornosphere» (Biasin et al.,) multiplies pornographic styles succeeding in detecting new gazes by the audience, in particular a female one. New aesthetics are being offered to visual pleasures that so far have been perceived as marginal in porn. A pornography that is, finally, able to disengage itself from the gaze of a traditionally male spectator. That scopic architecture, so well analysed in the world of cinema by Laura Mulvey (1975), according to which male gaze voyeurism used to objectify the female body, therefore controlling it, is starting to fall apart.

2. Pornhub

Pornhub is based on free offer of large quantities of pornographic material, organized in genres and subgenres and categorized in tags. It is the first pornographic-purpose social network: the audience enjoys the contents and at the same time can produce and talk about them. Users' profiles and relations are defined according to a model similar to the one used in social media. A socialized enjoyment where users' experience is tailored through, for example, suggestions of particular categories in relation to what previous seen, never losing sight of users' desires. Pornhub platform has revolutionised the interaction between audience and pornographic contents. As far as Italian women are concerned, who are the centre of our study, in the chart 1 (Fig. 1), we can see the most popular searches on Pornhub by Italian women (Pornhub Insight 2020).

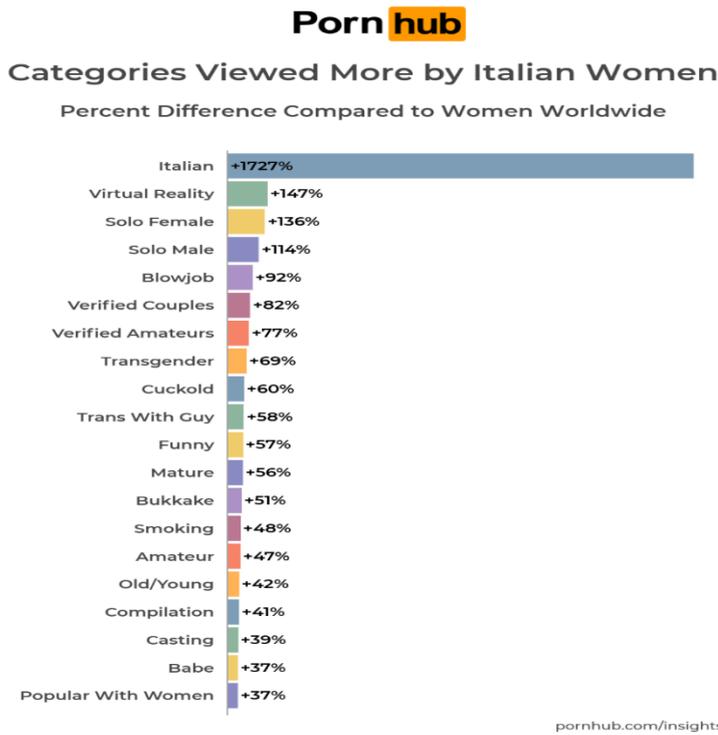
FIG. 1. *Most Popular Searches by Italian Women*



Source: Pornhub Insight 2020

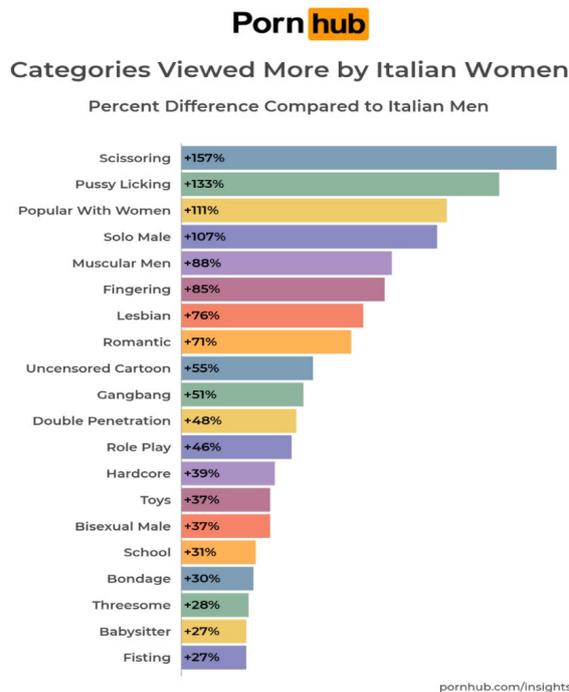
We find «italiano» (italian), «dialoghi italiano» (italian dialogs) and «amatoriale italiano» (Italian amateurs) at the top of the list. So it seems that women prefer to watch porn where they can hear their mother tongue. In 3rd position we find «milf», so it seems Italian mums are not only a men's obsession. In fact «milf» is more popular with women than terms such as «lesbo» and «lesbian», which is usually among the most appreciated by women. If we take a look at the list of most viewed categories by Italian women, we find more or less the same situation, even if in different positions. In the chart 2 (Fig. 2), we can see which categories Italian Women are more likely to watch when compared to the women in the rest of the world.

FIG. 2. *Categories viewed more by Italian Women (percent difference compared to women worldwide)*



Source: Pornhub Insight 2020

FIG. 3. *Categories viewed more by Italian women. Percent difference compared to Italian men*



Source: Pornhub Insight 2020

«Virtual reality», that is +147% more likely to be seen by Italian Women. Looks like Italian women like to use technology to plunge deep in hot scenes. We then find «Solo Female», +136%, «Solo Male», +114%, «Blowjob», +92%, and «Verified Couples» and «Verified Amateurs», which once again confirms Italian passion for amateur porn. Here's the list of categories that are more likely to be seen by Italian Women when compared to Italian Men.

Women are more likely to watch «Solo Male» than men, +107%, «Muscular Men», +88%. The «Romantic» category is more likely to be viewed by women only +71% more than men.

What are these decisions telling us? It seems interesting to us to start from the pleasure women show in watching pornographic texts where the protagonists are men. It is here evident a repositioning of a female gaze. The centrality of male gaze is in this case overturned and men become the erotic object.

As far as the amateur aspect is concerned, previously mentioned, the model of female body at the core of these tales of sexuality is more realistic. Imperfection is legitimized, thus nourishing a new form of desire, not any more so attracted by the perfection of homologated and standardized bodies. It's easier to be projected in possible situations, that are perceived as real because they are similar to what is known. The truth in common bodies and situations involves a female spectator generating a sense of closeness. An amateurial porn, therefore, staging desire more faithfully and with a higher intimacy and complicity.

Further attention must be paid to the category «Popular with women» introduced in 2007 to replace «Friendly with women». While this last section in the past was designed on women's *alleged* preferences, the new one is based on the most clicked contents by women, therefore on real tastes they show in building their own programme of pleasure. This strategy of conquering the kingdom of desire that the platform has put into practice, has been satisfactorily welcomed by female users, and has meant they have extended the time dedicated to videos by more or less one minute.

Conclusion

We are not totally convinced that it is possible to talk about a legitimation of women's transgressive sexuality. Ours is an explorative study based on quantitative data offered by Pornhub; it is not, therefore, possible to give a conceptualization of women's pornographic consumption that can be generalised. It will be important, in future research, to take into consideration different demographic groups, detecting how women of different ages and different cultural backgrounds relate to pornography. Although our analysis is focused on the liberating function of women's aware enjoyment, we cannot ignore research perspectives highlighting the risks that pornography consumers, both male and female, run: abuse

of online consumption, psychological addiction, distorted sexual education. In this piece of research we have decided to focus on the place that women's sexual pleasure has in pornography, rather than on the potential sexual risks connected to it. It is not our conclusion that pornography is unproblematic and that watching porn does not have any effects, or that it has only positive ones. However, it is our belief, that pornographic consumption must be taken seriously, in this case with particular attention to female enjoyment (Mowlabocus, Wood, 2015). It is our opinion that it is important to reject the rigid binary gender system considering men as active and women as passive in representations of pornographic audiences (Comella, 2019). More space must therefore be given to empowerment (Peterson, 2010) rather than to stigma. We believe it is possible to see a subversion of the representative standard of pornography and a legitimation of a female gaze on men. Although there are still many products with female roles subordinated to male pleasure, many women are transforming pornographic production, narration and enjoyment. Sexual objectivation and sexual agency, although considered conceptually opposed and mutually exclusive, can coexist and intertwine (Lebedíková, 2019).

Attention must be paid to the context of use of pornographic communication investigating women's construction of meaning, when they interact as spectators with this kind of audiovisual texts. It seems to us that technology has allowed women to explore the borders of their sexuality with unprecedented freedom. Pornography can offer sexual scripts and behaviour models for a contemporary sexuality in which both male and female pleasure can take place. Sexual desires and interests in this way seem «normalised» and the awareness of being *object of desire* can even lead to the decision of letting yourself go with the game. The processes that have been shortly described, through which our culture represents sexuality, show the need for an increase in academic studies on the relation between media, culture and pornography, paying particular attention to acknowledging the central role women play in contemporary pornosphere, to emancipate female pornography from obscenity and to rightfully introduce it in the public sphere.

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Gender Issues as a Political Resource: Reflections about the Representation of Women, Stereotypes and Gender-Based Violence

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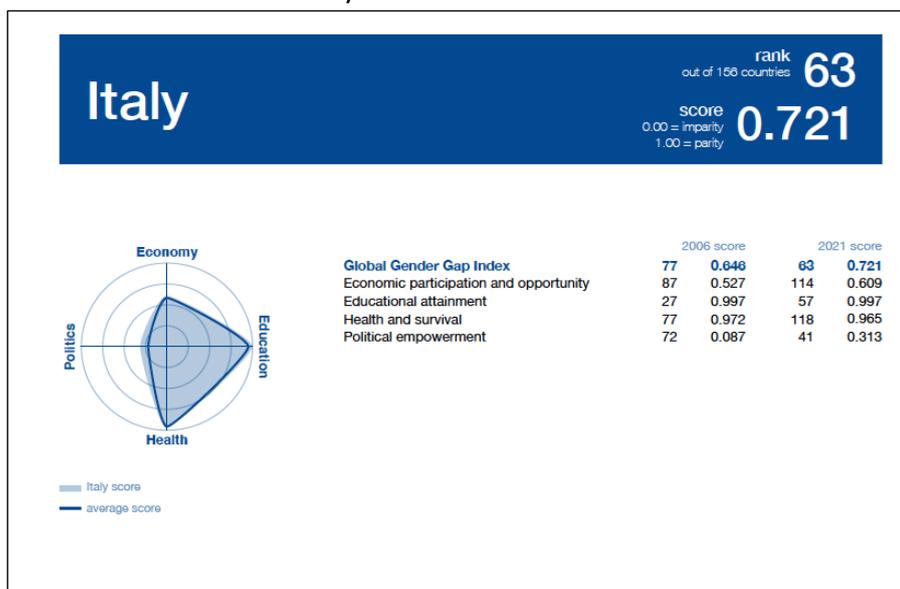
ABSTRACT: *According to the World Economic Forums Global Gender Gap Index on gender equity issues, Italy gained 13 positions in 2020, rising from 76th to 63rd place out of 156 countries. This important improvement was most likely due to Prime Minister Giuseppe Conte, who during his second government reached an historical record with 34% of Women represented within his governments staff. But as happens in other fields, such as the economic sector, Women leaders who hold top positions in institutions or establish themselves as party leaders are still a minority. In Europe, for example, there are only six countries with women at the head of Government. Among them, the Finnish Prime Minister, Sanna Marin, who is one of the youngest premieres in the World, and who has made gender equity a tool to aggregate consensus, conveying new rhetoric and imaginaries that challenge gender expectations. In Italy, one of the few examples of a Woman in a senior political position is represented by the right-wing party leader Giorgia Meloni. This unusual prominent position opens up many questions: What happens when a political leader is a woman? Does identity recognition become political good practice? Are these leadership models capable of deconstructing stereotypes and prejudices therefore triggering a new culture of gender equity? This paper has carried out an analysis of the relationship between politics and gender representations through a specific case study. The research focuses on the Italian populist leader, Giorgia Meloni's use of public communication to reconstruct gender representations through the way that she uses the topic of gender-based violence. The content analysis methodology will include the contents of tweets published by Meloni throughout 2020, her public statements and her official speeches relating to gender-based violence issues. The results of the research show how gender issues become a resource to rearticulate the more traditional political dynamics typical of populism as well as other traditionalist and xenophobic parties without deconstructing consolidated social stereotypes and helping their reproduction.*

KEYWORDS: *Representation of women, Stereotypes, Gender-based Violence*

Introduction

According to the Global Gender Gap Index on gender equity issues, Italy gained 13 positions in 2020, rising from 76th to 63rd place among 156 countries (see Fig. 1). This important improvement was most likely due to Prime Minister Giuseppe Conte, who during his second government reached an historical record of 34% of Women represented within his governments staff. But as it happens in other fields, such as the economic sector, Women leaders who hold top positions in institutions or establish themselves as party leaders are still a minority. In Europe, for example, only six countries have women serving as heads of Government.

FIG. 1. *Italian Gender Gap Index*



Source: World Economic Forum (2021, 229)

In Italy, one of the few examples of a Woman in a senior political position is represented by the right-wing party leader Giorgia Meloni (Arfini et al., 2017). This unusual prominent position opens up many questions: What happens when a political leader is a woman? Does identity recognition become political good practice? Are these leadership models able of deconstructing stereotypes and prejudices therefore of triggering a new culture of gender equity?

Methodology

To answer these questions, we analyzed the website www.giorgiameloni.it, a real container where is possible to find contents produced on other platforms, a sort of archive of Giorgia Meloni's political life with a collection of news on her activities carried out, press releases, party programs, official speeches, interviews (88 items, examined from 11 April 2020 to 11 May 2021) ordered day by day and made available to network users. Moreover, we have chosen to analyze her political communication by reading a corpus of her tweets collected

from 4 December 2020 to the 1 May 2021 (n. 848). We considered this as being the most interesting channel due to its characteristics as a news media (Kwak et al., 2010), it has the capability to spread news and content produced becoming a sounding board. Giorgia Meloni uses Twitter widely in her daily political communication. In the perfect populist communication – which is well suited to the platform that forces one to synthesize thought in 140 characters, thus an evident reduction in the complexity of thought – she and Matteo Salvini appear such as the most active on Twitter among all politicians in Italy.

Giorgia Meloni posts a lot of content every day (an average of 4) and obtains excellent engagement results (i.e. the ability to get attention regarding the number of likes, retweets and replies in proportion to the number of followers). During the last two years she has increased her importance in social media and from the first week of 2018 to the end of September 2020, her followers have grown by 527,451 units.

Despite the potential related to interaction, Meloni uses this medium as a megaphone: she does not reply to anybody, comments anything even if it is possible to record marked variation in the last year (September, 2019, 9 answers out of 205 interactions; September 2020 12 answers out of 120). Almost all her tweets have an informative nature, referring to news items and mainly to Italian political news and she often uses wider textual resources (because they benefit of more characters or because they are multimedia).

1. The Gender Perspective

In the light of these materials, we have collected and analyzed, we can try to do some general considerations in a gender perspective. Using this approach looking at Giorgia Meloni's political communication can tell us a lot about the stereotypes transmitted and reproduced by the leader of Fratelli d'Italia, but we can also understand a lot about the typical representation of women in Italy. In fact, as well underlined by Mudde and Kaltwasser (2005, 2)

the relationship between populism and gender politics is highly dependent on the cultural context in which populist actors operate. Given that they are normally interested in winning votes (like most political actors), it is not surprising that populists are inclined to take mainstream positions on aspects that are not central to their own agenda. However, populism never appears in a pure form, but rather in combination with other sets of ideas, which also influence the overall agenda that populist forces end up defending. In short, in practice the gender politics of populist actors are influenced by a combination of the national culture and accompanying ideology rather than by populist ideology itself.

1.1 *The language*

The androcentric setting which characterizes the Italian language, as well as other European languages, reflects power systems crystallized in stereotypes, which refers to an over-representation of male as an active gender and an under-representation of female relegated to family roles (of wife and mother) and reduced to a passive sexual object. Gender is not just a grammatical category but rather a semantic category that shows a deep symbolism within the language (Violi, 1986, 41). The language can act as a reinforcement on the same imaginary or can weaken stereotypes and produces new representations. The language of Giorgia Meloni political communication misses this opportunity and, concealing the presence of women or diminishing their absence where it could be emphasized through language, does not promote the deconstruction of gender prejudices and avoids producing change and innovation in equity direction.

2. What kind of the feminine representation does Meloni transmit and reproduce?

First, Meloni transmits a feminine that is never mentioned. Apart from her affirmation of belonging to her gender, whenever she refers to herself or to other women, she does not mention them as feminine, preferring choosing linguistically to use a generic masculine imagined as neutral. So she is, for example, «the first Italian politician to lead a large European party» (Giorgia Meloni's acceptance speech when she was elected President of the European conservatives – ECR Party). Or again, Meloni said she is «Discriminated for ideas, not because she is a woman. I am a soldier who is not afraid of anything or anyone¹».

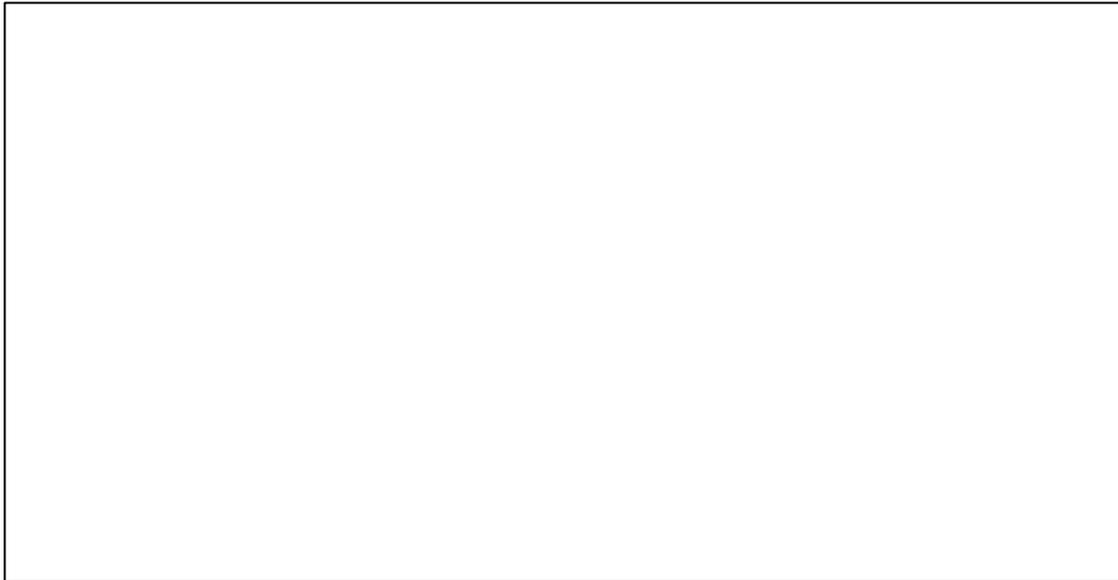
It is interesting to note that within Meloni's communication her gender affiliation becomes so relevant during presentation discourses in which she claims to be the first of all women and mother and then Italian and Christian.

In this framework, the woman, swallowed up in this masculine pretending to be neutral, is made worthy of being named only in two cases, as evidenced by the analysis of the collected materials.

When it comes to security forces: soldiers, police, financial police, etc. in this case, they are all men and women who «defend our nation». As in a family, men and women together «honor the state uniform» «the men and women who pride themselves wear this uniform» and protect us (see Fig. 2).

¹ Interview to Antonello Piroso in «La verità», May 12, 2021 <https://www.giorgiameloni.it/2021/05/12/giorgia-meloni-a-la-verita-discriminata-per-le-idee-non-perche-donna-sono-un-soldato-che-non-ha-paura-di-niente-e-nessuno/> (last access July 10, 2021).

FIG. 2. *Tweets from Giorgia Meloni*



Source: Giorgia Meloni Twitter account

3. Woman as mother

This worldview is reflected in her government program. As already highlighted (Saccà, Masidda, 2018), about gender issues, populism represents a traditional and conservative ideology. Within the populist parties' agenda there is no attention for women and political debates reveal a traditional representation of woman as a wife and a mother (Saccà, Masidda, 2018a; Saccà, Masidda, 2018b). In the Fratelli d'Italia platform, for instance, there is no mention of policies to combat gender-based violence.

The program wants to be the most impressive support plan for families and birth rates in the history of Italy and provides some support for women, as mothers such as free nurseries, the extension of parental leaves (just for women), increased protections for female autonomous workers, incentives for companies employing new mothers and women of childbearing age. All of that within the «Defense of the natural family, the fight against gender ideology and support for life»².

The coincidence between female gender and motherhood is rhetoric widely used in Meloni communication: all women are mothers by definition. They even are before giving birth «Why for someone a womb for rent, an abomination, is fine, but supporting a woman during her

² https://www.giorgiameloni.it/wp-content/uploads/2018/01/PROGRAMMA_A4_REV2.pdf.

pregnancy is not? I believe it is time to fight against this ideological frenzy³».

In her representation, women as able of being workers and mothers must be supported. In 2021, Mother's Day becomes an opportunity to reaffirm this concept and the close relationship that binds the woman (mother) to the nation. «Best wishes to all mothers, tender and relentless fighters, in this Italy that does not defend them, forgetting it owes them a lot» (see Fig. 3).

FIG. 3. *Tweet from Giorgia Meloni*



Source: Giorgia Meloni Twitter account

The representation of the woman is always connected to her family context and her primary function, the maternal one. Meloni often represents herself as a mother and, when she refers to other women, this is the aspect that she values, regardless of their professional role. An example above all, on the occasion of the death of the worker Luana D'Orazio, who died on May 3 while working in a textile company in Montemurlo (Prato), Meloni writes: «A dramatic news. Luana, a 22-year-old mother, was crushed by a machine in the workplace».

But, also on other occasions: «A story that tightens the heart. In Turin, a mother doctor donates part of her liver to her 3-year-old daughter suffering from a serious illness, saving her life.» (see Fig. 4). And so on.

³ Interview to Luca Telese, in «La verità», October 5, 2020. <https://www.fratelli-italia.it/2020/10/05/giorgia-meloni-a-la-verita-vorrei-portare-orban-nei-conservatori-europei/> (last access July 10, 2021).

FIG. 4. Tweets from Giorgia Meloni



Source: Giorgia Meloni Twitter account

3.1 «Women's participation in the democratic growth of our societies»

The main task for a woman as a mother is to educate and protect the offspring ensuring the growth of the family. Children education is a woman's responsibility as well as taking care of them. This a priori emerges clearly in her programmatic statements. In this framework, her speech at the Eurasian Women's Forum in St. Petersburg is really interesting: «Women's participation in the democratic growth of our societies» (September 24, 2015), a document full of elements useful for our analysis and to which I will make a brief reference. For instance, the woman/family apparatus is repeated several times, and in this context, the woman becomes the guardian of conservative values, and her role is to reproduce them by becoming responsible for their transmission: «The essential role of women in society, and I think I express an opinion shared by many delegations in this room, begins with the value of the family. I have always been critical of a post-feminist individualism that tends to isolate the woman from her socio-family context. [...] Of course, there is not only this, but also the need to ensure women every possible support in children education and their identity development, meant as the transmission of cultural heritage that distinguishes people and enriches them⁴».

4. Islamophobia and Femonationalism

Giorgia Meloni never uses the word femicide in her speeches, interviews and tweets. When she mentions gender-based violence, she often

⁴ <https://www.giorgiameloni.it/2015/09/24/il-mio-intervento-al-forum-euroasiatico-delle-donne-a-san-pietroburgo/>

connects it with Islamophobia and Femonationalism (Farris, 2017; Giorgi, 2021): «I support the young woman raped in Rome in a public parking in Via della Pineta Sacchetti. These abuses are always intolerable, but what happened on March 30 would take on a very serious significance if it were confirmed that the crime was committed by a Nigerian non-EU citizen who had already tried to abuse a 7-year-old girl in 2009. We demand an exemplary punishment, certainty of punishment, and expulsion of immigrants who commit crimes in Italy. Stop putting citizens' life at risk, security is a right.

Therefore, fighting against immigrants (often Islamic) «becomes essential for the «defense of women's rights », all considered equal because they are assimilated according to the only possible identity of mother, important part of the natural family.» (see Fig. 5).

FIG. 5. *Giorgia Meloni notice*

APR
13

Vicinanze alla giovane donna violentata a Roma a Pineta Sacchetti. Ora condanne esemplari e pene certe



Esprimo tutta la mia vicinanza alla giovane donna violentata a Roma in un parcheggio pubblico di via della Pineta Sacchetti. Questi abusi sono intollerabili, sempre, ma quanto accaduto il 30 marzo assumerebbe un significato gravissimo se venisse confermato che il reato è stato commesso da un extracomunitario nigeriano che già nel 2009 aveva tentato di abusare di una bambina di 7 anni. Il lavoro svolto quotidianamente dalle nostre Forze dell'Ordine non va vanificato ed è intollerabile l'idea che degli stupratori possano essere rimessi in libertà a cuor leggero a scapito della sicurezza personale della gente comune. Un ringraziamento particolare va al carabiniere che, pur non essendo in servizio, è intervenuto per arrestare il sospettato. Pretendiamo condanne esemplari, pene certe e l'espulsione degli immigrati che commettono reati in Italia. Basta giocare sulla pelle dei cittadini: la

Source: <https://www.giorgiameloni.it>

5. Conclusion

Giorgia Meloni proposes a woman representation who is affected by her right-wings ideology. As a populist female leader, she transmits neither a new gender imaginary nor an innovation in traditional and stereotyped figure of the female. Only when exalting her role as a family member and a Mother do Women become the subject of rights. The gender fracture is not relevant in the construction of the populist political discourse and thus remains undetected, contributing to reproduce and to reinforce the oldest and most ancient gender stereotypes.

Gender and its representations become an important political resource to aggregate consensus and generate positions which have nothing to do

with the rights and the self-determination of women nor they contribute to the recognition of plural and complex rights and identities that gender issues represent. This representation of the Woman, therefore, does not seem to promote alternative leadership models able to deconstruct stereotypes and prejudices and to trigger some form of social change towards a culture of gender equity.

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'Una super madre al poder'. Representation and Positioning of a Woman Political Leader in the Bolivian Case of the ex-President Jeanine Añez

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ABSTRACT: *In recent years, in Latin America there has been a substantial improvement in formal gender equality thanks to some government agreements that have implemented legal and institutional reforms to guarantee women's fundamental rights and legal equality between men and women (Marchionni, 2018). This created an institutional mechanism that have promoted not only an improvement of women's condition in terms of equality, but also the adoption of laws against familiar violence and in favour of women's right to a life free from violence.*

In Bolivia, the political presence of women in state and non-state public spaces and their protagonism in social movements and other collective actions has gradually increased and has contributed to a wider democracy and important transformations in political culture. A decisive contribution has been given by Evo Morales, especially by the law 26/2010 which allowed a wide access of women to Parliament. At the same time, however, this law has highlighted resistances and structural restrictions of a patriarchal-oriented, colonialist and liberal political system that prevents the gender equality that has been reached in the legal system from being reached also at a substantial level, overcoming conditions of inequality, discriminations and social exclusion.

Within this framework, our contribution analyses the figure of Jeanine Añez, who was interim President after the golpe against Morales in 2019, until the election of the current President Arce. She's leader of the conservative, right-wing populist, and neoliberalist-oriented party «Movimiento democrata social»; she's a Catholic and white lawyer coming from the upper middle class and she introduces herself as a woman aware of her gender identity and who has embodied some principles of feminism, joining them with nationalist and liberal positions.

The analysis of her political discourse shows a «femonationalist» (Farris, 2019) representation of the woman, combined with that of «super mother» (Montero, 2019) who is loving and dedicated to the care of her children, that are people.

This representation, in which her gender identity, conservative values, ideologic position, party affiliation, religious faith converge, corresponds to a contradictory political discourse that uses, on the one hand, the maternal feminine to show sensitivity towards the excluded people, and on the other hand racist expressions towards indigenous peoples. Her representation ends up reproducing gender stereotypes and strengthening the patriarchal colonial social structure, in line with other more studied cases of women leaders.

KEYWORDS: *Social representation, woman political leader, Bolivia, Latin America, gender stereotypes.*

Introduction

Our paper aims to analyze the figure of the woman leader Jeanine Añez, who has been *interim* President of Bolivia from 2019 to 2020 and protagonist of the *golpe* against the elected government by Evo Morales.

In our opinion her figure is interesting, from a symbolic and political point of view, because it shows some similarities with other women leaders in Europe and in the world (let's think about our Italian case of Giorgia Meloni) in the way of introducing herself and positioning but, at the same time, some peculiarities that are produced by the influence of local culture both on the way she represents women and on her political action particularly in the field of gender issues, and on the response that this kind of representation and political action produces in feminist social organizations.

It can be added that the so called Latin-american continent is nowadays an interesting social lab in progress in the field of gender issues, so probably looking at it in comparative terms and with due differences can be useful to understand more clearly what is happening in Europe and move more easily within the debate on gender equality and the issue of stereotypes in the social representation of gender relations. So let's start precisely from what is happening in Latin America.

In the last years there has been an evident improvement of formal gender equality thanks to some government agreements such as the *Convención sobre la Eliminación de Todas las Formas de Discriminación contra la Mujer* (CEDAW), the *Declaración y Plataforma de Acción de Beijing*, the *Convención Interamericana para Prevenir, Sancionar y Erradicar la Violencia contra la Mujer*, that have implemented juridical and institutional reforms to guarantee women's fundamental rights and legal equality between men and women (Marchionni, 2018). It had as a consequence the implementation of institutional mechanisms that have promoted not only an improvement of women's condition in terms of equality, but also the adoption of law against domestic violence and in favour of the women's right to a life free from violence.

The World Economic Forum (2020, 20) has provided data about the regional average gender gap closed so far. They show that in 2019 four regions have closed at least 71% of their gap. Between them, Western Europe is the region where the gender gap is smallest (76,7%), placing it ahead of North America (72,9%), while Latin America and the Caribbean have closed 72,1% of their gap. Anyway, Latin America has been one of the two most improved regions this year (the other is Sub-Saharan Africa).

However, from a substantial point of view, an evident gender gap is still present and it requires public actions that allow women to have the same opportunities as men in access to resources, education, decision-making processes.

From the point of view of political empowerment, data about global gender gap, provided by the World Economic Forum (2020, 23) and referred to 2019, show that the gap between men and women is still big in the whole Latin America. However, some countries as Costa Rica, Mexico, Nicaragua, have reduced the gap by 46%, Colombia by 31,8%. Important data refer to Bolivia, Cuba and Mexico that have reached 50% of women among the members of Parliament and also Bolivia, Costa Rica and Nicaragua that have reached 50% of women among the ministers.

In Bolivia women's political presence in the public and not public field and their participation to social movements and other collective actions have gradually increased and this has contributed to a wider democracy and important transformations in political culture. A decisive contribution has been given by Evo Morales's government and the law 26/2010 that allowed a wide access of women to Parliament. Even today, as shown by the results of a qualitative research that we're carrying out, Feminist organizations consider Morales' government an interlocutor to promote gender policies.

But at the same time, law 26/2010 has highlighted resistances and structural restrictions of a patriarchal-oriented, colonialist and liberal political system that prevents the gender equality that has been reached in the legal system from being reached also at a substantial level overcoming conditions of inequality, discriminations and social exclusion (let's think about the delicate issues of abortion and gender-based violence that are strongly influenced by *machista* culture).

In this framework we are going to analyze the figure of Jeanine Añez who, in a certain sense, can be considered a symbol of the achievements obtained over the last years in Bolivia in the field of women's participation in politics.

1. Jeanine Añez and the representation of the woman in her political discourse

Añez is leader of the conservative, right-wing populist, and neoliberalist-oriented party *Movimiento demócrata social*; she's a white supremacist and Catholic woman coming from the upper class and she is ex vice-president of the Bolivian senate.

On 13th November 2019, after a *golpe* against Morales' government carried out by the military, police, and right-wing extremists, she declared herself president of Bolivia.

The first image that we get from media is while she enters the government palace (Palacio Quemado) with a bible in her hands, declaring «thank God, the bible has returned to the Bolivian

government»¹. The image is symbolically very strong, because it refers to a colonial and patriarchal power that chases away from the government indigenous people who are considered as a symbol of a not democracy (in a country where almost 70% of the population are indigenous and that has been governed by an indigenous power for a long time).

Racism and aversion to indigenous people are central topics in Añez' political discourse.

In 2013, so before she was President, it was really shocking a tweet of her (that was deleted immediately later) in which she declared: «I dream of a Bolivia without satanic indigenous rituals, the city isn't made for indians, they need to go back to the countryside!»². In her vision indigenous people are part of an underdeveloped and not civilized society that has nothing to do with the Bolivian white, civilized and democratic society.

The analysis of her political discourse allows us to find some elements that, as said earlier, are in common with other women leaders. First of all, she introduces herself as a woman aware of her gender identity and who has embodied some principles of feminism, joining them with nationalist and liberal positions. She replaces a male and patriarchal government that represented the causes of the subaltern indigenous people, introducing herself as model of a female government close to the causes of another subaltern subject that are women and she focuses her speech on the stereotype of femininity as key element of good politics. This is shown also by the qualitative content analysis of her tweets posted over the last year (2020-2021).

For example, in a tweet dated 22 th July 2020 she wrote: «I come from a family that knows what it means to work hard to provide daily sustenance for the children. I have worked since I was young to get ahead. That is why I know that at this time Bolivian families need help to face the crisis, and my answer is the *Bono Salud*»³; or also in a tweet dated 6 th August 2020 dedicated to the pandemic issue, she wrote: «as woman, as mother and as President, I know that we must undertake a difficult path decisively. But, above all, the ways must be walked by helping one another»⁴. The characteristic element of these and other tweets is the combined use of the first person singular and the words «mother» and «woman» (Fernández Murillo, 2020, 4), in accordance with

¹ <https://www.opendemocracy.net/en/democraciaabierta/qui%C3%A9n-es-jeanine-a%C3%B1ez-y-por-qu%C3%A9-desprecia-los-pueblos-ind%C3%ADgenas-de-bolivia-en/>, accessed on 2 february 2021.

² <https://twitter.com/jacobin/status/1194641261724127232>, accessed on 2 february 2021.

³ <https://twitter.com/jeanineanez/status/1285940812791123968>, accessed on 2 february 2021.

⁴ <https://twitter.com/jeanineanez/status/1291399004971048961>, accessed on 2 february 2021.

the populist maternalist ideology rooted in the political discourse of Latin American states (Chaney, 1992; Franceschet et al., 2015; Valenzuela Somogyi, 2019; Fernández Murillo, 2020) where motherhood has been central to women's engagement with politics (Franceschet et al., 2015, 1).

As it can be seen, here and also in other parts of her political discourse, Añez uses the stereotype of the woman responsible for a non-violent power and synonym of solidarity and compromise, inspired by Catholic values. She takes up from feminism the gender equality issue which she frames within a vision of a strongly liberal and nationalist society (in her political discourse there are many references to the fatherland, the nation and democracy, protected by the armed forces).

On 11th October 2020, on the occasion of Women's day, she deals with the topic of the importance of promoting gender equality, by using the principle of what she defines «the modern equality». With this expression she means that equality, born in the humanist tradition, that allowed humanity to improve economically, politically, and socially. An equality inspired by Christian conception of humanity, that has allowed to stop slavery, racism and injustice. To sum up, in Añez' opinion

the cause of women's equality in Bolivia is the cause of universal equality. [...] When we defend women's rights, we are not referring to any ideology, be it right-wing or left-wing, gender or otherwise, we are simply following the centuries-old tradition that sees the human as the supreme value⁵.

As it is evident, the issue of gender equality and women's discrimination is not critically interpreted as a structural problem of a patriarchal society but linked to the more general and abstract issue of equality between human beings. Moreover, her vision of gender equality is essentialist and characterized by the homologated use of hegemonic categories. There is not space for the differences among women (for example, between indigenous and not indigenous women) or for an analysis that looks at the inequality in connection with nations, race, social class and gender.

Therefore, she doesn't make any reference to policies or actions aimed at overcoming the gender gap and gender discrimination. This fact, which is evident from the analysis of her political discourse, is also confirmed by qualitative interviews with activists of Bolivian feminist movements, who say that, during her year in government, Añez, despite being a woman and boasting female power in government, has never promoted any gender policy.

More emphasis is given to the topic of gender-based violence which in her words is defined a structural problem due to the *machista* society, to be faced focusing on education and awareness (however the analysis of her tweets dated last year shows she uses the term femicide only once). The convergence, in her discourse, of the use of gender equality issue,

⁵ <https://eju.tv/2020/10/mensaje-de-la-presidente-jeanine-anez-en-el-dia-de-la-mujer-boliviana/>, accessed on 3 february 2021.

the conservative right-wing values, her regional and cultural origin and her religion, allows us to frame her within «femonationalism» phenomenon described by Sara Farris (2019). As Montero (2019) has pointed out, it is not surprising that in her speech there are strong inconsistencies: for example the use of maternal female to show sensitivity towards those excluded and, at the same time, racist and exclusionary expressions towards indigenous people.

This «femonationalist» representation is combined with that of «super mother», who is loving and dedicated to the care of her children, that are people.

2. «Una super madre al poder»

In Latin America the figure of the «mother» has represented the historical image of women in the political field. As pointed out by Molyneux (2003, 263), while in Europe and North America Feminist movements claimed the emancipation of women from family ties, in Latin America motherhood was the fulcrum of the representation of women in politics. Its roots can be found in colonial times, in the context of the popular cult of «Marianismo» (Stevens, Pescatello, 1973; Montecino, 1996a e 1996b). In that time, it was evident the presence of a symbolic construction that attributed to feminity the specific quality of motherhood and to masculinity the specific quality to be son, producing models of actions in public and private spaces consistent with those social constructions (Montecino, 1996 a, 31-32).

For this reason, many studies on women's social movements in Latin America have focused on «maternalismo» as an interpreting category to understand discourses directing it (Luna, 2001 e 2009; Molyneux, 2003; Montecino 1996 a e 1996 b; Zarco, 2011). For instance, Chaney's studies (1992) have demonstrated that the instrumental use of motherhood in policy is not a new phenomenon in Latin America. She argues that women had to give an image of themselves that emphasizes the positive aspects of gender stereotypes. The category of super-mother that Chaney has worked out refers to the fact that women represent themselves as mothers of a larger «house» such as people, the city, the nation, in order to legitimize their presence within an adverse political field. More recent studies (Franceschet et al., 2015) have shown that this strategy has been modified over time, producing other representations that, in any case, use the maternal role as an added value of the expertises of a woman (e.g. the technocratic assistant who emphasises her experience as a mother as know-how to be used in social issues).

Añez builds her figure of political leader on the basis of her qualities as woman and mother in a context dominated by fear. It is evident the permanent antagonism between warlike male leaders and women who do not fall within the stereotype of innate good femininity and are therefore represented as witches (Montero, 2019).

She is inspired by the image of a «Marian» mother, the Virgin Mary, who only thinks about her children (Montero, 2019). The image of Añez as «Marian» mother is characterized by her strong religiosity. This allows her to carry out a «just war» against the atheism of her forerunners. When a journalist asked Añez about having taken a bible in the presidential palace she declared: «I'm president because God has decided it»⁶ (Montero, 2019, 172).

She shows herself as a protective mother and she uses the plural to demonstrate that her political actions are the actions of the community. She shows herself as a sensitive mother. In an interview she said: «You see me strong, but I'm sensitive and whiner, I'm human, mother, a sensitive human being»⁷ (Montero, 2019, 185).

Love for the unfortunate people and for animals is recurrent in her discourse and is linked to the sensitivity of the female universe. She emphasises this empathy when she talks about other women and introduces herself as the protector of all women in the nation. On the day when 2020 was declared the year of the fight against femicide and infanticide she began to cry as she said: «I give you my hand to support you, because we don't want to cry over more deaths, because you are in front of a woman, mother, who feels the same pain you feel. Our government has committed and we will work for it»⁸.

As pointed out, although she uses her gender identity and builds a rhetoric around certain gender issues, her representation and positioning promote policies that encourage respect for women's traditional roles. The way in which this is done, as Mudde and Rovira Kaltwasser studies suggest (2011), is strongly influenced by the Bolivian *machista* and colonialist culture that Añez embodies by adhering to the stereotypes with which gender relations are represented.

This shows some similarities with the rhetoric of other women leaders in the world. We can find the stereotype of the mother in the political imaginary and discourse of Giorgia Meloni in Italy, Sarah Palin in Usa, Marine Le Pen in France, but also of Michelle Bachelet in Chile, Cristina Fernández in Argentina or Dilma Rousseff in Brasil. In all these cases, the more or less emphasized use of the image of the mother to introduce themselves allows them to distinguish as women political leaders. However the meanings attributed to the figure of the «mother» depend on the national political contexts and the corresponding culture (Valenzuela Somogyi, 2019).

⁶ Interview in the program «Que no me pierda», Red Uno, 13 de diciembre de 2019 in <https://www.youtube.com/watch?v=F161FByhQXk>, accessed on 3 february 2021.

⁷ Interview in Bolivia Tv, in <https://www.youtube.com/watch?v=djFRAJqoRqw>, accessed on 3 february 2021.

⁸ Interview ATB, 13 th January 2020 <https://www.youtube.com/watch?v=iu5Sa79UpZI>, accessed on 2 May 2021.

Conclusion

The representation and positioning of the Bolivian leader Jeanine Añez can be considered a specific expression of Latin American maternalism that, as argued by Franceschet, Piscopo and Thomas (2015), has unique historical legacies. They have written: «while female politicians worldwide commonly confront structural barriers and cultural expectations related to their assigned caretaking roles, female politicians in Latin America can draw on a long history of political activism grounded in maternalism to claim a space in public» (Franceschet et al., 2015, 30). Their analysis shows that Latin American women are challenging the relationship between motherhood and politics, reimagining the importance of maternal ideals. The experience as mother and family caregiver is not the only dominant justification for women's political participation. Women justify their careers also by appealing to their professional backgrounds and leadership skills.

In the case of Jeanine Añez, motherhood is central in her political identity and concerns, even if she uses also the argument of her technocratic skills in social issues. Further, she seems to place herself within the contemporary phenomenon of white and right-wing feminism, well analyzed by Sara Farris, that is the expression of the needs of the hegemonic class and takes advantage of certain topics of feminism in order to produce a nationalist and racist narrative against indigenous peoples. Playing with stereotypes of social representations of gender roles, this kind of feminism moves on the line between «Privatizing the Public, Politicizing the Private, transgressing, even erasing, such borders as well as, sometimes, upholding them», as Kathleen M. Blee and Sandra McGee Deutsch noted (2012).

The woman leader represented by Jeanine Añez clashes with the activity of Bolivian Feminist associations, that are expression of a composite and lively feminism that falls within the framework of a complex patriarchal social system.

The interviews with Feminist activists collected so far within a research on the relation between populism and gender issues in Bolivia have shown a radical difference with Añez in the woman representation and in the use of the gender stereotypes. The activists consider her as totally distant from the causes and needs of Bolivian feminist movements; in their opinion, she embodies the expression of a female power that reproduces gender stereotypes (for instance, the equivalence woman/mother). She, therefore, supports the interests of a neoliberal and racist right wing party, without promoting any policy in favour of women. Hence, the political figure of Añez is contrasted by the complexity and heterogeneity of the Bolivian composite feminism, expression of multiple demands, sometimes in conflict one with another, but all of them falling within a left-wing ideology, based on inclusion and social justice.

In conclusion, referring to Mudde and Rovira Kaltwasser's studies (2011), it can be stated that the relation between Añez'government and

gender policies is influenced by the combination of Añez' right-wing ideology and the Bolivian national culture, historically based both on *machismo* and *Marianismo*. This combination is also what has caused radical differences between Añez' government and Morales' government in terms of gender policies and of the responses by feminist organizations.

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**Researching the Relationship
between Gender and Education:
Innovative Methodologies
and Open Questions
in Times of the COVID-19 Pandemic**

From Face-to-Face to Online Interviews: An Experience Description on University Male and Female Students

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ABSTRACT: *This paper describes an experience linked to a gender-sensitive university orientation project for young men and women. In particular, the contribution intends to offer some meta-reflections following the reformulation of the project itself during the COVID-19 pandemic. The contribution is developed starting from the project «Piano Lauree Scientifiche» (PLS – Plan for Scientific Degrees) in collaboration with ABCD Interdepartmental Center for Gender Studies of the University of Milan-Bicocca. The project initially envisaged the involvement of some high school students in a preliminary focus group phase to collect suggestions and points of view about their future projects. The pandemic completely reversed plans in several moments: it was no longer possible to meet students in schools. Therefore, the study was based on focus groups aimed at university students who should have followed double interviews to be carried out in person. The worsening of the pandemic situation led then to online interviews rather than face to face interviews. This article aims to highlight this experience to inform future research and encourage flexibility and reflexivity in research. It is hoped that this article can be helpful to develop cross-cultural qualitative methodology and expand upon the emerging field of literature surrounding video conferencing qualitative research, first of all those regarding the link between gender and university orientation.*

KEYWORDS: *Gender differences, University Orientation, Online Interviews, Face to Face Interviews, COVID-19*

Introduction

The COVID-19 global pandemic had a significant impact on research as the normal and expected research difficulties were exacerbated by the drastic change of everyone's way of life. This article is a reflective narrative of the authors experience of the transition from face-to-face to online interviews, within a project dedicated to the definition of a gender-sensitive university orientation intervention, due to the pandemic social distancing and contact restrictions. Through a descriptive analysis, this

article details the numerous ethical, logistical, practical and cultural issues that the authors confronted in preparing qualitative online interviews through personal reflections, current events and existing literature.

The contribution is developed starting from the project «Piano Lauree Scientifiche» (PLS – Plan for Scientific Degrees)¹ in collaboration with ABCD Interdepartmental Center for Gender Studies of the University of Milan-Bicocca². The project's aim was the declination of a short orientation path to choose university studies dedicated to third or fourth-year students of upper secondary school. Path finds its characterisation in putting gender dimension at the centre and investigating the influence that this *informally* acts on the choices of young people around their future (Biemmi, 2019; Biemmi, Leonelli, 2016; Ulivieri, 2007).

The project initially envisaged the involvement of some high school students in a preliminary focus group phase to collect suggestions and points of view of the young people about their future projects (including desires, fears, doubts about the choice of the university), which it would be followed by workshops where a theme of the gender-orientation relationship would be proposed that could hopefully support the paths of university choice by deconstructing some gender stereotypes that risk binding or precluding some possible choices or experiences from the beginning (Padoan, 2020; Brambilla, 2016).

The pandemic completely reversed plans in several moments: it was no longer possible to meet students in schools. Therefore, the intervention research project focused on focus groups aimed at university students who should have followed double interviews to be carried out in person. The worsening of the pandemic situation led to online interviews rather than face to face interviews.

The aim of this article is to highlight our personal experience to inform future research, encouraging flexibility and reflexivity in research, and implementing the university's focus on the connection between gender and orientation.

In accordance with the original project and with the subsequent changes made to the project following the COVID-19 emergency, we asked ourselves a series of initial questions to reflect. The main research question should be summarised in: «*How COVID-19 influenced the Gender Orientation Project for University Choice?*». Due to the pandemic, as said, we afforded the interruption and reformulation of the original proposal, and this contribution is a starting point for reflection.

We assumed that the COVID-19 emergency had implications and repercussions regarding various aspects of the project and in particular:

- on the design of interventions;
- on the methodologies and tools used;

¹ Piano Lauree Scientifiche: <https://www.pianolaureescientifiche.it/>.

² The Interdepartmental Center for Gender Studies – ABCD <https://abcd.unimib.it/english-description/>.

- on exacerbation of gender inequalities.

With regard to the intervention plan, as mentioned, the pandemic forced to reduce the scope of some initiatives in terms of time and number, and to modify the original project where the impossibility of being in attendance represented the main difficulty. This necessarily led to reflecting on the implementation of remote detection methods. As highlighted in numerous contributions, the idea of reformulating the original project in order to adapt it to new conditions is a frequently opted issue (De Barros et al., 2020; Nind et al., 2021).

About methodologies and tools, the impossibility of acting in person required a reformulation of the project procedures. Starting from the limits imposed by the pandemic, we tried to adapt our objectives according with the new technological tools made available by the University itself. In fact, the COVID-19 pandemic altered the landscape of higher education, forcing institutes across the globe to lockdown campuses and shift instructional methods (Kara, Khoo, 2020a; 2020b).

Finally, we reflected on how much the pandemic situation exacerbated gender inequalities and how much this may have an impact on the present and future orientation projects as well, especially those that are characterised by a gender-sensitive approach (Collins et al., 2020; Riva, 2020).

In particular, we have long wondered about the specific relapses concerning the aspects mentioned above in the arrival of the pandemic, specifically:

- On the topic in question (orientation / gender);
- On the redesign of the intervention;
- On logistical and practical issues;
- On ethical and cultural issues.

In this contribution, we present the aims and the features of our original intervention research project who is part of the Scientific Degree Plan Project (paragraph 1). In paragraph 2, we describe the changes of the original project resulting from the COVID-19 pandemic emergency. Following this, in paragraph 3, we examine our experience and offer some reflections on the expected and least expected aspects that emerged during the reorganisation and relative implementation of the project in the light of the changes made. Finally, in the concluding paragraph we share some reflections about future perspectives on the different methodological, ethical and orientation plans.

1. The original project

Our intervention research project is part of the National Plan for Scientific Degrees (PLS). PLS was implemented on the initiative of the Ministry of

Education, University and Research in 2005³, consolidating the experience of the Scientific Degrees Project for the disciplines of Mathematics, Chemistry, Physics and Materials Science to strengthen the linking actions between school and university and between university and the world of work and to spread interest in scientific subjects by students of secondary schools.

Since 2016, the National Scientific Degree Plan has also been active for Biology and Biotechnology, Geology and Statistics. From 2018 the project also involves the study courses of Computer Science and Environmental Sciences, with national coordination for each discipline. The project support the orientation of students in scientific areas and the training of secondary school teachers according to the guidelines of Ministerial Decree 976/2014.

The Scientific Degree Plan (PLS) at the University of Milan-Bicocca⁴ have implemented the activity started in the past years to direct students to a more reasoned and conscious choice of the Course of Studies. Both the interdisciplinary initiatives and the activities organised by the PLS specific to the various disciplines are currently fixed points of the University training offer. Among the specific initiatives of the broader Scientific Degree Plan (PLS) project, there are those of the three-year degree courses in Statistics linked to student orientation. More specifically, The Scientific Degree Plan Project (PLS) group in collaboration with ABCD (Interdepartmental Center for Gender Studies of the University of Milan-Bicocca), commissioned a project on gender and orientation⁵.

The original project provided an occasion for practice, intervention and initiative in supporting an orientation considering the influences of gender dimensions in the choice of higher studies.. The project aimed at providing information and training opportunities on the influence that stereotypes and traditional representations of professional profiles exert on university choice, limiting the margins of awareness, reflexivity, freedom and self-determination (Felini, Di Bari, 2019; Gamberi et al., 2010).

The main target was made up of third or 4th year students attending upper secondary schools, both in the scientific and humanistic areas. The activity was aimed to be an opportunity for critical reflection on the relationship between gender and orientation, with particular concerning the choice of university courses and the related educational, existential and professional implications.

³ <http://www.progettolaureescientifiche.eu/il-progetto-lauree-scientifiche-la-storia-2005-2009/>

⁴ PLS at the University of Milan-Bicocca: <https://www.scienze.unimib.it/it/orientamento/piano-lauree-scientifiche-bicocca>.

⁵ ABCD works with PLS: <https://abcd.unimib.it/attivita-di-ricerca/seminari-di-ricerca-abcd/>.

The initiative was originally divided into a series of phases managed by an interdisciplinary research group composed by the authors (two pedagogists, one sociologist and one psychologist) with the scientific supervision of a statistician expert in social demography⁶:

1.1 Phase 1

The intervention started with the implementation of 4 Focus Groups (FG) with male and female students of 4 different university courses (humanities and hard sciences). More specifically, these appointments were dedicated to the exploration of:

- a. the university choice (motivations, desires, paths, supports/obstacles);
- b. the university experience lived as boys and girls;
- c. imaginary around the university experience of those who live it from within a gender minority;
- d. expectations, wishes and fears for one's future;
- e. advice for secondary school students and their university choice.

1.2 Phase 2

This phase aimed to realise face-to-face double interviews with male and female university students who participated in the focus groups to create a video to be submitted to high school students. The use of the collected material should have formed the basis for phase 3 and, more specifically, face-to-face guidance interventions in high schools (Denicolai, Farinacci, 2020).

1.3 Phase 3

The specific objective was the collection of some suggestions and points of view of the young people on their future projects including desires and fears (Savickas, 2015) about the choice of university. This phase included the scheduling of meetings dedicated to high school students to talk about the university choice from a gender perspective.

The first phase was carried out according to the times and methods envisaged in the original project. On 19th and 20th of February 2021, 4 focus groups were held with the participation of students from the University of Milan-Bicocca from the courses of Education, Primary Education, Social Service, Materials Science, Computer Science. On the 24th the first COVID-19 regional lockdown was declared. In the meantime, in the months preceding the first COVID-19 pandemic lockdown, the working group contacted the schools in which Phase 3 should have been implemented. One scientific high school and one Human Science High school of Milan and the city hinterland confirmed their interest in implementing the project, confirming that there had never been a gender-sensitive orientation within their institution and, at the same time, recognising its need. Both schools identified the contact person who

⁶ Prof. Laura Terzera.

would manage the relations between school and university. As the pandemic progressed, contact with schools was not followed up. As we will see, Phase 2 has been reformulated, and phase 3, the one involving school, currently is suspended.

2. The project during the COVID-19

As a result of the COVID-19 pandemic, the project team group have afforded the new social condition rethinking in particular the Phase 2 methods and exploring the potentiality of online platforms to support and continue their qualitative endeavour (Dodds, Hess, 2020)

Considering the constraints and the contents emerged from the focus groups, it was decided to reformulate the Phase 2 by replacing the previously hypothesised in-depth interviews with online double interviews to students with «eccentric» careers (women in STEM and men in the social and educational professions) to be used within the activity teaching, that can be enjoyed in person or remotely (Janghorban et al., 2014). The new objective of the project's activity become producing a material completely accessible online, that could be used in presence or remotely as didactic material in an orientation intervention for high school students.

The face-to-face interviews were due to take place on March 23, 2020. The reorganisation of face to face to online interviews took the interviews to be done on December 14, 2020. The technical support Multimedia Services Sector of University of Milan-Bicocca helped the double interviews realisation.

3. What about our experience?

As said, the COVID-19 pandemic experience took the project group to interrogate itself deeply among different dimensions such as the impact on the topic question, on the redesign of the intervention and the methodological issue related to the redesign and on the ethical and cultural issue linked to the reorganisation of the project and the new social configuration of the interviewers and interviewed.

3.1 On the topic question

The main objective of the project was exploring and supporting the university orientation considering the choice of higher studies with a gender approach.

During the focus groups and in particular, during the online interviews, we noticed that some students seemed to have reflected on the gender topic by themselves or during some attended university courses and were sensitive to it. Conversely, other students seemed to focus on the gender topic for the first time and were not able to relate it to themselves

and their biography. In both cases, in the narratives collected we observed some risks.

Risks identified, first of all, concerning an «ease» of overcoming constraints and limits related to stereotypes and gender order (e.g., I have chosen in absolute freedom / advice to choose according to your wishes). In this sense, the choice of their future does not seem to reflect anything other than their own decision, their own desire, their own commitment. A certainly positive look at one's own possibilities, that which however ignores the weight and educational consequences of gender constraints and other dimensions intertwined with them (like class, ability, culture, ethnicity etc.) (Casalini, 2018).

Moreover, this element becomes significant if we considered that, some students pointed out the role of middle school in orienting their trajectories in higher education. According to the literature, we consider that students are more or less oriented towards specific trajectories by teachers and other professionals in the school they have attended (Formenti et al., 2015; Olivier et al., 2018; van Zanten, Maxwell, 2015). The lack of systematic attention to the gender dimension at all school grades (from primary school to university) prevents many teachers and students not only from designing a gender orientation but from noticing what is already informally and problematically present.

The collected focus groups and the overall project invite to reflect on another risk: gender issues often were seemed to be exclusively traced back to the numerical disparity of presences (male or female) in the study courses, which it is believed can therefore be overcome by achieving an equal presence of men and women (Biemmi and Leonelli 2016). Where present, this simplification makes problematic the meaning that students could give to some tools, such as quotas and incentives for an equal presence of genders in university courses. Tools that are strategic but not resolute themselves. Indeed, this simplification prevents students from understanding the complexity of the functioning of a gender order (Connell, 2011) and its equally complex educational implications. On the contrary, it offers the possibility for many gender stereotypes to survive⁷. The nature itself of the National Plan for Scientific Degrees leads investment in promoting the presence of women in STEM. Instead, there are no incentives for men in care / education – related courses («it's less cool») (Holtermann, 2019).

3.2 On the redesign of intervention, methodological issue

Literature regarding the COVID-19 emergency addresses methodological challenges in the redesign of interventions mainly due to difficulties in recruiting participants, avoiding distorted samples, building and maintaining research relationships. For example, from the point of view of researchers, it is difficult to create trust with participants without in-person contact, getting/updating ethics approval in a stressful time for

⁷ <http://www.expecteverything.eu/hypatia/>

participants (and also for researchers themselves) due to the great uncertainty at collective level, and data analysis when the pandemic has 'modified both research fields and methodological strategies' (De Barros et al., 2020, 243).

In our research during the pandemic, we intercepted some problems mainly connected to the student double interviews online. Concerning the interviewees, the possibility of contact only by telephone, by email, or, worse, through a mediator who probably contacted them in the same way made them lose a possibility of empathy and motivation to carry out the interview, which made the process of interviewing more complex recruitment.

We also matched technical difficulties such as the audio, the video quality, the network connection, the metallic voice: these are all aspects that made more complicated realising empathy (Sullivan, 2012; Lupton 2020; Howlett 2020; Lobe, Morgan and Hoffman 2020).

Despite the difficulties described above, there are also elements of positivity in online interviews. One of these is represented by the possibility of «entering» the rooms of the students interviewed with the consequent possibility of carrying out a small ethnography concerning the most intimate environments of the lives of boys and girls (Sangaramoorthy, Kroeger, 2020).

3.3 On the ethical issues and cultural issues

For some study courses (in particular for Materials Sciences), the recruitment of interviewees was challenging. As researchers, we wonder if this issue is linked to the lack of awareness on the issue of gender but do not have enough to prove it. As a research group, we had fewer difficulties in recruiting students from the humanistic course degree and more on the scientific courses where the intervention of the mediator with higher hierarchical level resulted as necessary in order to obtain the students' participation (Vicente et al., 2020). This last issue led emerge an ethical problem concerning the involvement of students that probably were obliged by their teachers to participate.

Interviewing in a period of social isolation means considering the very reason that drives the researcher to carry out online interviews, which is the existence of the pandemic, among the ethical aspects of research (Miller, 2020). The main restitution that the interviewer can give to his interlocutors is the willingness to listen and the interest in what students want to tell, but what if the students are not really interested in participating? What is their advantage? How can the interviewer repay his interlocutors in such cases (Geertz, 2000)? Those are issues that inevitably arose where the short interviews involved people who had never thought about the subject in question.

Furthermore, the pandemic has given rise to the phenomenon of the «pandemic fatigue» also given by the considerable time spent in front of the screens (Labrague, Ballard, 2020; Hawley et al., 2021). Recruiting

research participants in times of hardship, anxiety, and social distance is another ethical issue that interviewers have to deal with.

Conclusion

This article has sought to identify the most salient issues faced by the project group during the COVID-19 pandemic. In doing this, we obtained some expected results and some unexpected results on the project's overall objective and on how we implemented it.

Concerning the expected results, we found that the online interviews resulted particularly complex compared to face to face interviews, due to both technical problems and increased difficulties in realising empathy between the interviewer and the interviewee (Will et al., 2020). Moreover, approaching the gender dimension of one's personal and educational biography for the first time requires time and the presence of an interlocutor who supports the attention and reflection of those involved in the interview.

A second unexpected result concerns the project's aim related to the sensitivity to the gender dimension: reflection on the gender issue is particularly weak on students coming from degree and master degree courses where the gender topic is not addressed. In fact, according to the theory of transformative learning (Mezirow, 1991) an adult could learn to change their meaning schemes if, in their life, they come across a disorienting dilemma (something that do not have a clear solution) and they have a time and a good enough space (Winnicott, 1971; Merrill, West, 2009) to interrogate it for becoming more reflexive and capable of acting people (Formenti, West, 2018; Vindrola et al., 2020; Teti et al., 2020). In this sense, the intervention promoted and the reflections conducted invite to plan a (continuous) exchange between middle and university students on gender issues related to orientation so that these stimuli can become opportunities for all participants for reflection, training, awareness of one's education (formal and informal) (Tramma, 2009; 2019), between constraints, desires and opportunities.

It is hoped that this article can be of use to further develop cross-cultural qualitative methodology and expand upon the emerging field of literature surrounding video conferencing qualitative research.

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Being Mothers in the Time of COVID-19 Pandemic. Reflections and Pedagogical Implications

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ABSTRACT: *The health emergency and the restrictive measures adopted by various Countries to deal with the consequences of COVID-19 are risking to compromise important results achieved so far in the field of gender equality. However, the pandemic has increased critical issues in other areas such as care sharing, gender-based violence, entrepreneurship, education and poverty. The current situation risks exacerbating gender inequalities and making society less inclusive.*

In particular, the closure of schools and distance learning during Spring 2020 have had a strong impact on the educational practices and daily routines of children and adolescents, requiring the help and supervision of adult figures. Often mothers found themselves having to work at home but at the same time having to care their children in online education, or working outside and having to find a solution for managing their children, or even worse, losing their jobs. This paper will try to analyse, from a gender perspective (Decataldo, Ruspini, 2014), the results of a research conducted by the Author on the pedagogical consequences of distance learning both at family and school level, in particular on the role of mothers. Data collected once again show a disadvantage of the female gender, in particular of mothers, who suddenly found themselves changing life and work times with a greater burden of domestic and other work or having lost their jobs. According to their testimonies, the greatest difficulties were precisely those related to the reconciliation of their own work time with their children's school time and the management of the consequences of the lockdown in the child-development process.

KEYWORDS: *women, children, pandemic, school, gender gap.*

Introduction

The global emergency linked to the COVID-19 pandemic and the alarm raised by international organisations on the increase in violence against women and children have brought to light two well-established findings in studies on environmental disasters and epidemics in recent decades: natural disasters are social disasters and have a gender impact (Peroni, Demurtas, 2021; True 2013; Squires, Hartman, 2006; Smith, 2019; Wenham et al., 2020; Neumayer, Plumper, 2007).

In recent years, a broad strand of studies and research has developed focusing on the «gendered impacts» of these crises, i.e. their fallout in

both women's sexual and reproductive health and interpersonal and sexual violence, the worsening of which has been recorded following each environmental disaster or epidemic (Harman, 2016; Fraser, 2020; Smith, 2020; John et al., 2020; Eng, 2010; True, 2013; Peterman et al., 2020).

According to some studies, women, regardless of age and geographical area, are in fact the main economic and social victims of the pandemic: 1 out of 2 women have seen their economic situation worsen in the last 12 months, with unemployed mothers being the worst off (We World, 2021).

Women with children and without work have been faced with an enormous economic, psychological and caregiving burden, the social effects of which will be evident in the future. The pandemic has also had a strong impact on undeclared work, especially domestic care/assistance work, and in this case working women have also undergone drastic and difficult changes in their lives, being forced to reschedule life and work times, having to manage in the domestic space, work, childcare and sometimes caring for elderly relatives particularly affected by the pandemic.

The present contribution, starting from data coming from the national and international context on the condition of women during the first lockdown in Spring 2020, will describe the results of a research conducted on a sample of 70 mothers living in Tuscany and aimed at finding out what impact the restrictions had on their lives, in particular with reference to the reconciliation of work and childcare commitments.

The unpredictability of the pandemic event has, in most cases, left women and families on their own, forced to rely on their own internal resources to cope with all the consequences of the pandemic and the restrictions introduced.

The main consequence has been an increase in the already existing fragilities both in terms of women's condition and in the behaviour of young people, which unfortunately has not found adequate social and institutional responses.

Resilience and the ability to react positively to this type of event appears to be the first and most appropriate response, at least on a personal level, to cope with the situation, and this implies repercussions at an educational level and on the part of pedagogical research so that from the earliest stages of education one can invest in forms of «resilience education» which can help young people and adults to face life's challenges (Vaccarelli, 2016). This must of course be followed by social responses, legislative interventions, economic, political and educational investments in favour of the most vulnerable sections of the population.

1. Women's condition in Italy before and during the pandemic by COVID-19

The data referring to the Global Gender Gap in 2019, before the pandemic that has disrupted the social, economic and private life of the entire planet, paint a picture of women's position in Italy marked by a strong disadvantage (76th place out of 153 countries), especially in the job, where Italy ranks 117th (in 2006 it was 87th) and 125th for equal pay with men. The contradiction is that in terms of educational skills women are in 55th place.

In this situation, the consequences of a dramatic event such as the pandemic, which has caused a loss of GDP and jobs throughout the country, could only have an even more negative impact on women. In fact, the Global Gender Gap 2020 data show a worsening of the gender gap in Italy (76 position out of 153 countries) and above all the same negative trend as regards female employment.

In addition, numerous other studies conducted by public and private entities highlight the encouragement of a female condition of vulnerability (EnidataLab, 2021; EUROSTAT, 2021; UN, 2020; Institute for Fiscal Studies, 2020; Università degli Studi Milano Bicocca, 2020).

The global emergency linked to the COVID-19 pandemic and the alarm raised by international organisations on the increase in violence against women and children have brought to light two well-established findings in studies on environmental disasters and epidemics in recent decades: natural disasters are social disasters and have a gender impact (Peroni, Demurtas, 2021; True, 2013; Squires, Hartman, 2006; Smith, 2020; Wenham et al., 2020; Neumayer, Plumper, 2007).

The exacerbation of violence against women and girls during health emergencies is due to a specific 'political economy of gender inequality' that structurally precedes them (True, 2013) and is exacerbated by the 'tyranny of urgency' (Smith, 2020) typical of emergency situations, the consequences of which are: the systematic exclusion of women from political decision-making processes on the definition of social and health priorities that affect them, central to crisis conditions (Wenham et al., 2020); the gendered segregation of care work that relegates women to the domestic sphere, forcing them to the function of «amortizers» during isolation and quarantine (Fraser, 2020; Harman, 2016); and the devaluation/deprioritisation of specialised women's sexual and reproductive health services and shelters for victims of violence, which risk being considered non-essential and converted during health crises to general emergency services (John, 2020; Fraser, 2020).

The pandemic has amplified social and economic inequalities, reversing the progress on equality outside and inside the home.

In the first half of the 2020s, women took on more childcare and housework and suffered more layoffs on average than their male counterparts (NU, 2021)

The crisis has made jobs held by women 1.8 times more vulnerable than those held by men (McKinsey Global Institute, 2020).

Women are more vulnerable in the face of the economic crisis: four sectors are at high risk for job losses and reduced working hours: accommodation and food services; real estate, business and administrative activities; manufacturing; and wholesale/retail trade. In 2020, 527 million women, representing 41% of total female employment, are employed in these sectors compared to 35% of total male employment. As a result, women's employment is likely to be more severely affected than men's (International Labour Organisation, 2020).

As some national and international studies have shown, existing problems, such as high female unemployment and difficulties in reconciling work and life times, have been exacerbated.

The pandemic and the restrictions put in place for women have meant more home and less work, or rather: less paid work. In contrast to the economic crisis of 2008, the current recession has been called a «she-cession». Women are over-represented on the front of jobs most at risk of contagion, given the prevalence of women in the health sector, particularly in nursing and care (see data from the slides for the source), in nursing homes, as well as in private homes. The second front on which women are over-represented is that of people who have lost their jobs because of the crisis. The third is that of work in the home: both in remote work and in the increase in unpaid workloads due to the closure of non-essential services and remote work, starting with school.

At the height of the first wave of the pandemic, the OECD used the expression 'Women on all fronts' precisely to indicate the position of women vis-à-vis COVID-19. First and foremost, women are more present in the health sector: 64.4% are employed in health care and 83.3% in social care. In the medium-high risk sectors, such as residential social care services (80,2%) 3 domestic work (88,1% women) and other personal service activities (70%). In these cases, in addition to the risk of exposure to infection, there is also the risk of job loss, both due to lockdown and to the increasing economic difficulties of families and the cutting of expenses for domestic workers and carers.

In the second quarter of 2020, the reduction in female employment rates was 2.2 points compared to 1.6 points for men, so the gender gap in employment, already critical for Italy, has increased and the effects will be visible in the coming years.

As revealed by a recent research (Del Boca et al., 2020), the greater burden of parents for the school care of their children has been borne by mothers, the lockdown effect has almost everywhere aggravated the existing imbalances.

An ISTAT study (2020) on the labour market shows that the categories most affected by the health emergency were those who were already most disadvantaged in terms of work: women, young people and foreigners. Twice as many women as men lost their jobs in 2020, on the one hand because they occupy less protected positions more often and, on the other hand, because they are employed in the sectors most affected by the crisis.

Women are also at a greater disadvantage when it comes to new hires, and they are the category with the lowest number of re-entries into the labour market. From 4 May to 30 September 2020, 67 000 people who had lost their jobs between 1 February and 3 May 2020 re-entered the labour market, but only 42.2% of women took advantage of this opportunity. Those who managed to find a job took on average 21 days longer than in 2019.

Confinement within the home has forced each person within their own domestic walls, their own economic and material resources, and their own family context, denying access to a range of social and private resources that in some situations are indispensable for survival. Women who suffer family violence and minors who are victims of witnessing violence find themselves in an emergency situation due to the impossibility to ask for help and to live elsewhere.

In the first three months of the lockdown, authorities reported a 20% increase in cases of abuse and violence in all 193 UN member states. Researchers also estimate that due to the pandemic, the disruption of prevention programmes and the diversion of resources elsewhere will lead to a substantial increase in cases of violence globally over the next ten years.

In particular, their exposure to further forms of 'social, functional, physical and geographical control and isolation' by abusive partners implies a restriction of freedom of movement that prevents the planning of escape routes and the emergence of calls for help, which is made even more difficult by the fear of contagion and the reduced activity of 'first points of contact' on the ground, such as schools and community health services. (John, 2020; Fraser, 2020; Wenham et al., 2020, Leonelli, 2020). In addition, during public health emergencies the work of law enforcement and judicial systems is generally reduced, and emergency interventions are often not carried out due to the risks of contagion as well as the lack of awareness and specific training of professionals in recognising cases of violence and their severity (Peterman et al., 2020; John, 2020; Bradbury-Jones, Isham, 2020; Fraser, 2020).

According to Leonelli (2020), today an «institutional violence» exists as a collective problem that occurs when 'institutions do not fully commit themselves to enforcing the law' (they do not punish the abuser, they do not activate funding for sensitisation initiatives...). Moreover, it becomes apparent when institutions, in general, fail to 'ensure the safety of female citizens', and when, in particular, they do not work to 'secure victims' (Cretella, Romero, 2017). The ecological model (Bronfenbrenner, 1979) and the paradigm of complexity (Morin, 2001), urge to take studies in all directions, because each cut of analysis can illuminate hidden areas of the violence theme. According to this approach, attempts at resolution must also be conducted on several fronts. In addition to helping to clarify the causes of violence and their complex interactions, the ecological model also suggests that, in order to prevent violence, it is necessary to act on several levels at the same time.

Due to the epidemic of COVID-19, the training part in the field (i.e. workshops working with adolescents) had to be stopped, as well as in-person research. The forced closure of educational institutions meant that everything remained on hold while waiting for a different future.

In the report 'The impact of COVID-19 on women' (2020), the United Nations uses the expression 'shadow pandemic' to describe the escalation of violence during the COVID-19 emergency, reporting an alarming increase in requests for help worldwide during the lockdown but which had enormous difficulties in being met. In Italy, for example, regional provisions were not always in line with national ones, which caused difficulties for victims and Anti-Violence Centres.

2. Mothers, job and the pandemic: research findings

The closure of schools, all educational facilities, recreational and sports centres, as well as many workplaces that have switched to distance working, has certainly had an impact on the daily life of families and on the formal, non-formal and informal educational processes of children and young people.

The aim of this research, conducted among a sample of 70 mothers residing in Tuscany, mainly in the provinces of Florence, Prato, Pisa and Livorno, was precisely to find out what impact the restrictions imposed in the first lockdown in 2020 had on the private and professional life of working women with children. In particular, the research questions were:

- To find out what consequences the restrictions imposed by the lockdown had on the management and reconciliation of work, personal and family life times of women with children
- To find out which were the most evident positive and negative effects of the restrictions imposed by the health emergency on women's lives
- Investigating the effect of lockdown in achieving gender equality.

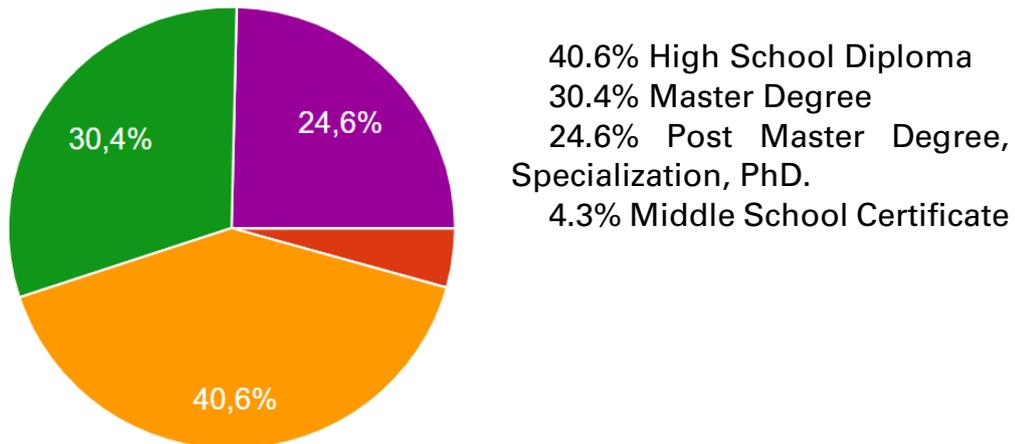
The theoretical framework of reference is based on gender-sensitive research (Decataldo, Ruspini, 2014) that takes into account the gender dimension in all phases of the research: from the choice of the sample, to the formulation of the research questions, to the analysis of the data.

The sample was chosen on the free will of working women with at least one minor child.

The instrument used to collect the data was an online questionnaire with closed and open questions in order to facilitate their adherence to the research.

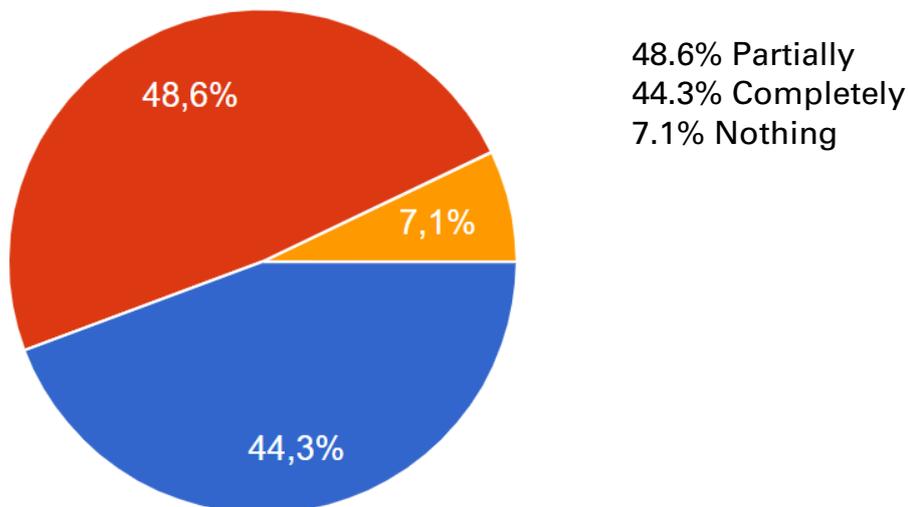
The sample consisted of 70 women aged between 30 and 55, of whom 23 had only one child, 43 had two children and 4 had three children. Regarding their status, 87% are married or cohabiting while 13% live alone.

As the graph below illustrates, the majority of the sample has a high educational qualification.

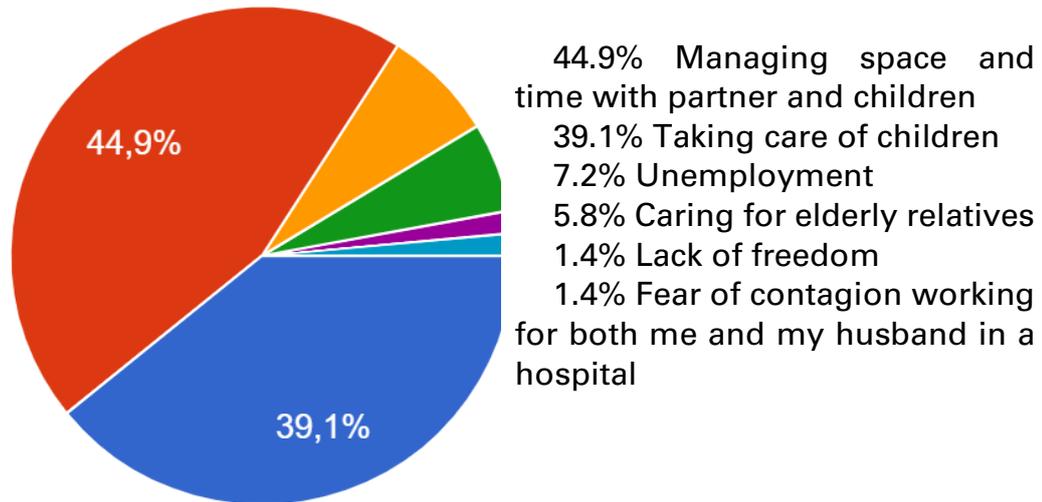
FIG. 1. *Educational Level*

The professions are diversified (self-employed and employed, public and private sector) such as waitress, domestic helper, salesperson, saleswoman, computer consultant, marketing manager, surveyor, tourist guide, kindergarten teacher (5), primary school teacher, employee (about 28% of the sample), self-employed, architect, doctor.

The majority of them in the first lockdown worked completely in smart working (43.7%) while 18.5% worked partially in smart working, 7% were laid off, then some were on maternity leave, for some there were no substantial changes.

FIG. 2. *Changes in time and space at home*

In the management of time and space in the home for the majority of the sample there were substantial changes that created some discomfort due to the sharing restricted spaces.

FIG. 3. *Most critical at home during lockdown*

The greatest criticality of this period, as the Fig. 3 shows, was having to manage space and time with partners and children.

Houses, usually empty during the day before the pandemic, became now too inhabited, because the space became too narrow to accommodate four or more people, that attend school lessons or they have to work.

Secondly, another critical issue was having to reconcile one's work time with the educational needs of children, now transformed into distance learning. Whilst those with older children, from the age of 13-14 years onwards, found it easier from a technological point of view, younger children needed someone to accompany them for their lessons and do their homework, and for some this created many difficulties, so much so that mothers said they found themselves making their children do their homework in the evenings. Only if it was financially possible, some of them resorted to the help of a babysitter.

Other difficulties stem from the lack of freedom that caused a general malaise in both adults and children, the lack of work for those who have lost it, and also caring for elderly parents.

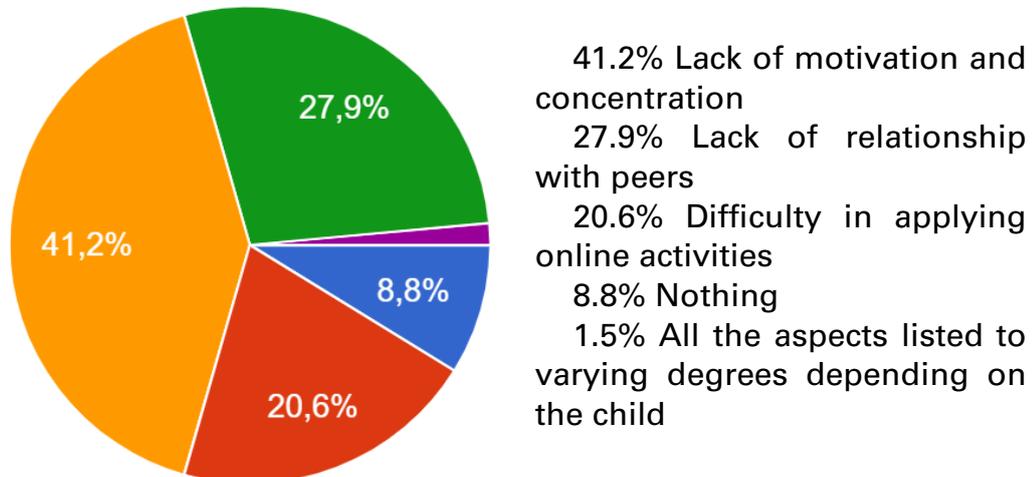
The reconciliation of childcare and work was one of the most critical aspects for the women of the sample, which, as some of them clearly revealed, put them to the test physically and psychologically, in their ability to organise and cope with the workload. The majority of them declared that they had to find a solution on their own, that they had a lot of patience and good will, some of them wrote that it was only possible thanks to the «super power» of mothers, some of them worked late in the evening to look after their child during the day, changing their work shifts. However, a great sense of fatigue emerges in all of them, of having to do «somersaults» in order to manage job, home and children.

As far as the relationship with the school is concerned, most of them (70,6%) more or less succeeded in maintaining relations with the school.

While there were more difficulties in following their children in distance learning.

As we can see from Fig. 4, the main problem for students was the lack of motivation and concentration and this especially for the youngest (41.2%).

FIG. 4. *Major difficulties for children and adolescents in distance learning*



A mother affirmed:

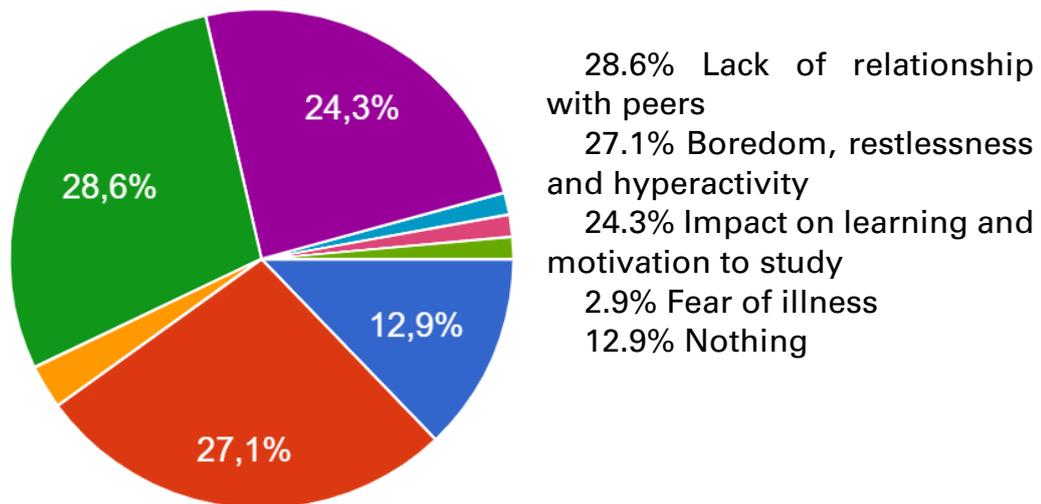
School, especially during childhood, is not only lessons but also about socialising, sharing, learning respect for others and for the shared rules and collaboration in a group. In fact, in September when school opened, it was difficult to stay at school form my daughter.

Children were much more agitated, nervous, sad and sometimes even showed aggressive and rebellious behaviour, especially because they could not go out, play and spend time with their friends.

From the data, it seems that in the youngest children the lack of a direct relationship with their teachers caused disorientation and some learning problems more than in adolescents, while for adolescents it was the lack of a direct relationship with their peers and the loss of a routine that had the most negative effects.

In particular, several mothers of adolescent noted a worsening of their condition, with an increase in social phobia and withdrawal into individual activities in front of TV, video games and mobile phones, poor concentration, increased boredom, states of frustration, dependency and need for help, combined with an increase in melancholic feelings, loneliness and anger.

FIG. 5 *Negative consequences in raising children*



At the same time, the research tried to find out whether there were also positive moments during this period of total change in family life. For 23.2% of them there was no positive aspect, while for the majority (49.3 %) the positive aspect was the rediscovery, never experienced before, of a total sharing of daily life with the family:

It was an opportunity to appreciate the pleasure of small things and to get the children used to doing things they had never done before, such as housework, preparing meals. Especially for boys, I think it helped them to understand how important and challenging it is for women to manage the home.

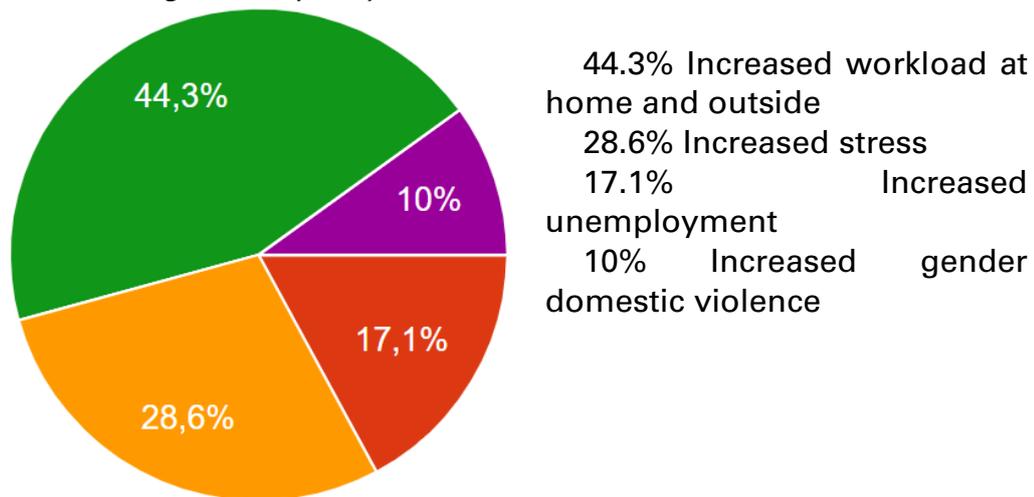
Finally, the boys learned to do something around the house... I took the opportunity to get my son used to tidying his room and helping me in the kitchen. Now I don't want him to lose this habit in the return to normality.

For some of them, the increased time at home with their children was marked by a worse quality of relationships

There was more anxiety and nervousness, fear of contagion and nervousness about not being able to carry out normal activities, so more time together did not lead to an improvement in relationships.

For all women interviewed, the lockdown and restrictive measures had negative consequences on the achievement of gender equality, in particular, the main consequences are: increased workload at home and outside (44.6 %), increased stress (28.6 %) due to numerous factors such as anxiety about the risks of infection for oneself and one's family, new and increased commitments at home, taking care to children in scholastic activities.

FIG. 6. *Consequences of the pandemic and restrictive measures on the achievement of gender equality*



Finally, the questionnaire gave the opportunity to express personal considerations and reflections on the consequences of this period. The answers received can be divided into two categories: considerations on the consequences on personal condition as a woman and mother and considerations on the consequences on children and on family dynamics. Unfortunately, in both categories of answers the reflections are negative and show a certain concern for the present and the future. As far as their own situation as women is concerned, the most urgent problems are given by the job (loss or redundancy fund) or by the fact of working in smart working, which is not seen as positive but as working time that is overloaded with family and home commitments and consequently increases anxiety and stress.

Society is still largely marked by cultural imbalance in the male-female relationship, which is obviously reflected in greater burden and stress on women in situations of great crisis such as the one in question. For me, smart working since March 2020 has been and continues to be a completely alienating situation.

Remote working can give more free time if you consider the cancellation of home/work transfers but it can create more problems of 'omnipresence of work in personal life', i.e. there are no more office hours but only the work objective to the detriment of free time.

This period has highlighted even more the acrobatic ability of women to manage the «double presence», it is not something innate but unfortunately we have to get used to, we should be the first women to rebel and ask for more support measures from the State, more resources for babysitting and support to parenting.

Similarly, the women denounced various problems in their children, ranging from the consequences on learning due to an alternative teaching method that cannot be matched by didactic attendance, to an increase in psychological distress, anxiety and a tendency towards

alienation, to the consequences resulting from the lack of a relationship with grandparents: worry and disorientation for the youngest children and the lack of an educational resource for families.

For the youngest children, the closure was a rediscovery of the family and led to a regression towards school and teachers. Learning is based on affection and the distance between teachers and children has made it more difficult for them to acclimatise to primary school.

My three children, from primary school to high school, have developed a devastating mobile phone addiction (the eldest) and TV and tablet addiction (the youngest).

These mothers are quite worried about the tendency towards social isolation, fear of going out and a regression in their children's behaviour and learning.

Conclusion

The pandemic has highlighted the weaknesses in social protection systems, while at the same time revealing how heavily our society depends on care work, both formalised and paid (childcare centres, centres for minors, nursing homes for the elderly) and informal and unpaid (by mothers and grandparents). It is therefore necessary to enhance the care system both culturally, legislatively and economically, as sudden and catastrophic events such as this one only increase the already existing criticalities.

The gender gap that existed before the pandemic has become even more acute now. The results of the research I carried out on a small sample of women confirm this trend and, above all, the greatest difficulties fall on the most vulnerable sections of the population: women, children and the elderly. These difficulties become even more difficult to deal with if adequate financial support is not available.

All the women participating in the research stated that they see negative effects of the pandemic on their status as working women and on their children, and referred to the need for adequate economic and educational policies to support families and children. In particular, they emphasised the importance of the role of the school and the educational relationship between teachers and students, as a fundamental educational tool for the harmonious development of their children.

The school-family collaboration proves once again to be a key element in the educational success of the younger generations.

What appears evident from these testimonies is a female subjectivity that is forced to take on the care of children and reconciliation with work time, an «acrobatic» figure as some of them define themselves and as the mother figure was already defined a few years ago by pedagogical literature (Gigli, 2010).

In this historical period that marks a «before and after», the experience of care and its burdens, on which the existence of each of us inevitably depends (Brambilla, 2021) should leave an important lesson that initiates a change, namely not to be perceived as a burden, a task that falls on women, but a value, a political ideal (Tronto, 2006) that can help to improve society, to make it more sustainable, equal and inclusive.

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Female Workforce in the Retail Sector: Welfare Policies and Collective Bargaining Perspective

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ABSTRACT: *Retail women's workforce is characterized by high level of turnover rate, higher percentage of part-time contracts, low-skilled workforce and increased level of connectivity/availability due to the spread of digitalization, especially in countries – such as Italy – where public policies and welfare systems are not sufficient to let women working full-time, making women's needs to cope with work-life balances issues crucial. Collective bargaining should meet this evolution, in order to define the new tasks that are rising and to improve workers' conditions, gaining equal treatment and higher transparency vis-à-vis employers' decisions. The aim of the paper is then to disentangle whether the social actors strategically negotiate over the changes that women workforce are facing or whether the regulation of women in the GDO (Great Organized Distribution) is regulated by the state, through policies that protect their needs. Thus, the question that this paper addresses is whether women's retail workforce is regulated by social actors, looking at the content of collective agreement. The methodology utilized is the inductive content analysis of the Italian sector collective agreement, run through ad-hoc codebook. The content analysis allows to verify whether the issue of work-life balance, harassment and training are regulated through collective agreements, specifically for women during digital transition, and/or whether the state, through specific welfare policies, is sustaining women.*

KEYWORDS: *Retail Sector, Industrial Relations, Women Workforce, Work-life Balance, Italian Institutions.*

Introduction

Service sector has been greatly growing in the last decades, both in terms of occupational percentage and in terms of specific subsectors (Reyneri, 2011; Fellini, 2017). Inside the great group of service sector, retail results to be very interesting due to many peculiarities. In particular, the theme of digital transition and the theme of gender balance are quite peculiar in retail. On one hand, the composition of the labour force in retail has strongly involved women labour force participation. That has a collateral aspects, that social actors need to handle, such as gender pay gap, work-life balance, life prospects (Reyneri, 2001; Eurofound, 2012). On the other,

retail is a challenging sector for industrial relations (Ambra, 2019), considering the fragmentation of the workplaces and the high level of turn-over rate, which affects the possibility of unionise workers. Collective bargaining can play a fundamental role in making fair digital transition for female workers (Peña-Casas et al, 2018), but also on topics more related to gender balance. For this reason, this article proposes, first of all, a brief recognition of the service sector characteristics, focusing on retail sector, and secondly it points on the role of the institutions in affecting to various and different extent women's presence in retail, in collaboration with industrial relations. Last collective agreement signed at sector level is analysed, through the analysis made by WageIndicator.org. The analysis aims to demonstrate whether actors are able to include in the agreement gender issues able to actual tackling gender disparities or whether they focus more on qualitative topics.

1. Service Sector General Characteristics

There are some major theories which explain the reasons beyond the great increase of the employment level inside service sector (Wren, 2013). On the one hand, families' better economic conditions have led to an increase in the demand of services; on the other, it is affected by the so-called cost disease (Baumol, 1967), which describes how, in very high labour-intensive services, technological innovation does not affect labour's productivity –even if in sub sectors like call centres or at delivery, technology have led to the increase of the general level of workers' «availability», affecting working time, «traditional» shifts and timetable (Connell et al., 2014).

Also, in service sector industrial relations present some disadvantages – for example, workplaces' fragmentation, high level of autonomous workers, high turnover rate and so forth – which make more difficult to adopt unions' strategies (Dølvik, Waddington, 2002).

Inside the macro group of service sector, however, retail, more than other sub-sectors, presents a series of characteristics, better explained in the next paragraph. Is exactly looking at retail that the research questions become more relevant: what is the incidence of target policies for women? Among other instruments, how effective is the collective bargaining?

2. Why Focusing on Retail sector

The retail sector is described as having some characteristics that imply sector-specific innovation which is not always comparable with or measurable against other sectors (European Commission, 2015), making it particularly interested to study. The specific features to take into account when studying this sector is the retail function, the store format in relation

to its marketing mix, and the manufacturing function, the development, production, and marketing of the product itself. In addition, the retail sector needs to retain attractive brick-and-mortar storefronts while at the same time finding new strategies to create a satisfied shopping experience. As the European Commission (2015) notes, examples of the most efficient innovations in the retail sector involve the re-engineering of the shopping process rather than a streamlining of the administrative process.

Alongside fast-food, retail is one of the most recognizable low-wage labour sectors, often associated not only with low-wages but also instability (Ikeler, 2016). Retail (considered at a subsector level but also as whole, mainly because the high degree of similarities) presents a set of common characteristics recognisable also in different countries (Carré, Tilly, 2017). In fact, in retail workers are usually low-skilled, and perceive low wages, especially in comparison with other sectors. Retail presents, also, a high percentage of part-time workers, which usually have to deal with schedules' management, and a higher level of turnover. High turnover, also, weights on trade unions power and coverage, which in this particular labour sector have to face with more obstacles than in others. Part-time, high level of turnover rate and flexibilization have all a great role in affecting the contingent control over these workers, and consequently also on the possibilities for trade unions to unionise them (Campbell, Chalmers, 2008; Ikeler, 2016). Also, working in retail usually means that the access to some forms of social protection is lower, especially in those countries based on corporatist system.

Even if these characteristics are highly transversal (both in terms of countries and partly of subsectors), women employed in retail tend to face with worst conditions at least from two point of view. Following Eurofound's job quality indices, women are especially penalised in the skills and discretion index (women: 46,5, against men: 53,4) and in the monthly earnings index (women: 885,4, against men: 1254,4)¹.

The tendency of women to choose for a part-time contract, often due to family-care burdens, affect not only (and more understandably) their income, but also the possibility to access to a full formation.

One aspect that has emerged in the retail sector is the liberalization of hours, increasing the issue of working-life balance for female workers. Since 2011, hours of work have been extended with the liberalization of Sunday working. Employers considered the agreement as a way of modernizing Italian industrial relations and strengthening their role at lower levels. Furthermore, trade unions were unable to oppose the creation of new part-time contracts, such as the '8 hours contract' on Saturdays and Sundays, intended for students and those aged under 25 years old, and in 2015 CONFCOMMERCIO signed an agreement, at the

¹ European Working Condition Survey 2015, dataset, own elaboration on microdata

sector level, extending working hours from 40-44 to 44-48 hours per week, increasing working time flexibility.

Social actors in the Italian retail sector are comparatively less influential due to the fact that Italian retail sector is composed (98%) by small and medium companies for the majority run at familiar level, where the level of unionization is pretty low (Eurocommerce, Uniglobal, 2017), Moreover, during the economic crisis, the retail sector has contracted substantially, In Italy, the situation just after the crisis was particularly tough: among the eight percent of companies that closed during the period 2008–2014, 57% (52,978 firms) were in the retail sector (ISTAT, 2018). Combined, these features have had an important impact on employment conditions and work organization leading, for instance, to the liberalization of opening hours, an increase in part-time contracts, and a higher demand for high-skilled workers, especially those with ICT competences (Eurofound, 2018). Despite the crisis, some recovery is evident: in 2017 in Italy, economic activity grew in all service activities by more than 1.5% (ISTAT, 2018).

3.1. Why digital transition is interesting in retail sector?

According to Donnelly and Wright (2017), about 90% of the retail sales workforce worldwide are likely to be substituted by robots in the next year. Thus, the sector will experience a fundamental change in the nature of work, which is one of the consequences already forecast by Degryse (2016). Thus, social actors are burdened with the task of handling the risks and opportunities that digitalization implies for workers and employers (Guaraschio, Sacchi, 2017), assuring also that economic growth is innovative, inclusive, and sustainable (Mazzucato, 2018).

Also, the Italian retail is changing and so social actors need to answer properly. In Italy, digitalization means mainly e-commerce. The website EcommerceNews, reports that Italian internet penetration is around 60% and that Italy is now the European country with the highest growth of e-commerce, indicating a potential market for online selling. Data-gathered before the spread of COVID-19, confirmed by the latest ISTAT report (2019), demonstrates that the retail sector as a whole is contracting, but sales of electronic goods are also shaping the way shops are with the spread of blockchain technologies providing consumers with information about products, or robotization allowing for automated shelf filling (Faioli et al., 2021), addressing consumers need (Deloitte, 2017).

3. Institutional Role?

When looking specifically at retail, usually there are several institutional issues taken into account in literature. First of all, the impact of laws which regulate labour organisation (management of part-time contracts, easiness in firing/hiring procedures), can highly affect the issue of career prospects for workers employed in retail (Eurofound, 2012). Secondly,

minimum wages policies can then clearly boosts for higher wages, reducing, at least partly, the issue of earnings (Askenazy et al., 2012), even if this aspect can be approached also from the perspective of the trade unions' role. Another element to take into account is the national tax and benefits systems. In fact, the lower is the level of the public childcare services, the higher will be the possibility to find women available and willing to work part-time and to accept jobs' conditions which usually comprehend low wages (Gautié et al., 2010). Active and passive labour market polices shape the labour supply available to work in these industries (and at lower wages) as well.

For its purpose, this paper analyses two institutional variables: welfare policies affecting work-life balance, in order to see if they sustain gender equality in the retail sector; and industrial relations and collective bargaining influence (Gasparri et al., 2019), to grasp if they point attention on the theme of gender balance in retail sector.

3.1 Why welfare policies affect gender issues in retail sector

From the social services and caring point of view, the lack of investments also depends on the strong role assigned to family, women in particular (familistic model), who often remain excluded from the labour market or tend to opt for solutions capable to leave space for child or eldest care – such as part-time contracts. This theme becomes more relevant if considering that – as outlined – the progressive shift from an industrial society to a society of services has eroded the well-known and embedded model of the male breadwinner – men employed in a flourish labour market, women devoted to family care, possibility to live with dignity with a single income. The erosion of this system has progressively pushed for a new series of requests and needs, not completely developed, leading to a strong feminization role in the family care still nowadays (Ascoli, Pavolini, 2012).

Due to these social changes, there is the need for new target policies especially in some aspects, like work-life balance and family care. Such investments can help in improving gender balance and in reducing gender asymmetries; in Italy, inside the macro group of work-life balance policies, there are three sub-groups: monetary transfers, externalisation of family-care services (public or private) and flexibilization in work schedules (Gaiaschi, Mallone, 2017).

In Italy, among the main policies related to the issue of work-life balance, there are four major areas of interest (Maino et al., 2019). Each category favours the status quo: measures promoting work-flexibility, which actually increase the presence of the male bread winner/female part-time earner; measures promoting the extension of (external) family services, on the direction of the dual earner model; measures based on monetary transfers and measures promoting fiscal helps. Italy presents a propensity on the first group of policies (Gaiaschi, Mallone, 2017), meaning that women tend to opt for part-time/reduced hours jobs to take care of family or not to work at all. For instance, the lack of a sufficient

diffusion of public or private services push to a remodulation of the working time, and this affect especially women. Parental leaving is regulated by the «legislative degree 151/2001» and by the «Law 53/2000», which guarantees, including the facultative extension, up to 11 months to be distributed among both parents. Nevertheless, parents tend to reduce their working time in order to take care of children (22,5%), but again with a major incidence among mothers (38,3% against 11,9% of the fathers). Another significant difference between mothers and fathers is that mothers are more likely to reduce the working hours (6 mothers out of 10), while fathers tend to opt for a remodulation of the working time (38,3% against 27,2% who opts for a reduction) (ISTAT, 2018). Monetary transfers and voucher are more diffuse, and comprehend, for example, the «*bonus bebè*», «*bonus asilo nido*» (which is derogated depending on the economic conditions, looking at «ISEE»), «*bonus mamma domani*» as well as «*assegni familiari*», which depend on the numerosity of the family and on the complex income perceived. The tendency, thus, is more to invest in «passive» policies, leading most of the time the firms to offer other specific benefits.

In a sector such as the retail characterized by high percentage of women in retail labour force, the high level of part-time contracts use, the labour organisation based on (asocial) shifts (Carré et al., 2010), the role the trade union in shaping women's working conditions through collective agreement is crucial (Colombo, Regalia, 2011). In the last decade the majorly representative trade unions in Italy (CGIL, CISL, UIL) expressed favour to stronger investments in public policies, in order to «provide equal and universal rights for women». Also, the issue of the second-level bargaining has been pointed as a possible instruments to promote reconciliation of work and life (ETUC, 2014).

The instrument of the collective agreement has been used at all level as a way to shape various aspects, starting from work-life balance (Agostini, Ascoli, 2014; Gaiaschi, Mallone, 2017) and flexibility of working time than offering concrete services (e.g., nurse). In the next paragraph we verify whether collective agreement is efficient in affecting gender issues, and whether it is integrated with the public policies on gender issue.

3.2 Why look in particular at collective agreement and which are the relevant actors

The Italian retail sector is mainly comprised of micro and small firms (about 98%), then traditionally the level of unionization has been particularly low. Moreover, bargaining coverage is less extensive and trade unions are characterized by less innovation and a more defensive nature (Carrieri et al., 2018). During the financial crisis and its immediate aftermath, trade unions have adopted a defensive attitude vis-à-vis the inflexible position of employers, but since 2016, the trade unions room of manoeuvre has amplified and they have been able to push for contract renewal (Carrieri et al., 2018; Leonardi, 2017).

Following the INPS-CNEL database we consider only the most representatives trade unions and employers' associations in order to avoid pirate agreements, that negotiate worst working conditions.

In the retail sector, workers in trade and retail, restaurants, hotels, and cleaning are represented by three main union organizations: FILCAMS-CGIL, FISASCAT-CISL and UILTUCS-UIL. The membership of the three trade unions, taken together, increased by 33.6% between 2008 and 2014 (Leonardi et al., 2018). While union density is one of the lowest among all sectors (only 25% in 2017), both CGIL and UIL have increased their membership levels, although CISL membership has decreased (Visser, database, 2019).

Different employers' associations represent different firm size: (a) tradition retail sector- CONFCOMMERCIO (with more than 700,000 affiliated firms and almost 2.7 million employees) and CONFESERCENTI (representing 350,000 SMEs with more than 1,000,000 employees); large-scale and modern distribution represented by FEDERDISTRIBUZIONE (with 200 large companies and multinationals and more than 220,000 employees and (c) the cooperative distribution sector, which follows cooperative business model (Carrieri et al, 2018).

In 2011, FEDERDISTRIBUZIONE exit from CONFCOMMERCIO provokes a disequilibrium in the sector. CONFCOMMERCIO and FEDERDISTRIBUZIONE are the two polarized associations with contrasting interests, while CONFESERCENTI has played the role of the intermediary (Burroni et al, 2019). The main contested point is represented by working hours: FEDERDISTRIBUZIONE pushed for working time liberalization. This *casus belli* gave the lead for the separation between two associations that represent companies that have different interests (Ambra, 2019; Leonardi et al, 2018).

There are different ideological differences. FILCAMS CGIL more pro-active against employers – the only trade union who did not sign the agreement on hours liberalization and FISASCAT CISL more moderate and willing to find a compromise within different interests and finally UILTUCS UIL being the buffer between FEDERDISTRIBUZIONE and CONFCOMMERCIO (Ambra, 2019; Gasparri, Tassinari, 2020). Despite this, the trade unions are aware of the changes and the necessity to align their strategies to theme. One of the best way to study the trade unions actions is to analyse collective agreements. Thus, in the next section we will go through the analysis of the sector collective agreement.

4. National Collective Agreements: an Overview

Following Ilo Report (2016), we analyse the content of sector collective agreement, because it sets the base line of actions, covering the majority of workers in the sector. Whereas we do not take into account the company-based agreements because they rely extensively to the company conditions. More, as Etuc (2014) points out, the national

collective agreement represents the most powerful mechanism for «reducing pay inequalities between women and men» and involving employers' associations in negotiation that reinforces the role of female workers in a sector characterized as the retail by high level of part-time (Carrieri et al., 2018).

Thus, we analyse the sector collective agreement of the retail sector. Taking into account the following variable that are mostly related to gender discrimination and fair digital transition: *pay level, training and lifelong learning and finally harassment at work*, verifying whether trade unions actions support female workers in particular during the current digital transition. The content analysis of the collective agreement is derived from the study made by WageIndicator.org, meaning that we report the study done by WageIndicator for the Italian retail sector.

First of all, among the most important findings it is not negotiated equal pay between female and male workers. The agreement provides also equal promotion treatment (as well as chances) for women as well as same chance of training and lifelong learning. It is also signed that a trade unions representative tasks should be devoted to gender parity issues. Moreover, the sector agreement protects workers against discrimination and from sexual harassment or violence in the working place. In fact, the gender parity should be monitored. Despite all these provisions, various are the aspects that are not included for the protection of female workers against discrimination.

For instance, it is not specified a specific sustainment for female disabled workers. Finally, the agreement does not include special leave for female workers that have undergone domestic violence.

Furthermore, the first issue is that within the section of «Health and Disease» it is not included the period of an illness that allows female workers to stay at home. The maternity leave is paid for 21.5 weeks and only the 80% of the salary is provided. The retail agreement assures the job position after the maternity leave. However, services for mothers who breast-feed their children are not negotiated, and the employers do not provide any further service for the working mother.

The result is that sector collective agreement provides the basic protection for women and anything specific regarding digital transition. We hypothesize that the company-based level is the level devoted to the development of this issue.

Conclusion

This paper aims to fulfil a void between the welfare measures and the decision taken by social actors, verifying whether the two complement their tasks in sustaining women, especially during the digital transitions.

In this changing pattern, the issue of gender becomes even more important, because the transition towards digitalization is fair only if all workers, despite their gender, have the same chances of training,

promotion and decent working conditions. In Italy, the equality between men and women is far from being reached. Social actors are aware that they have to strategically tackling this issue, through ad hoc debates, round tables, and actions organized within the companies. However, the most powerful action is represented by the rise of this issue at the negotiating table. In fact, Italian trade unions have channelled a significant amount of effort in utilizing agreement in order to assure a decent balance between working and family time, fighting against gender stereotypes (ILO, 2015).

As we saw from the analysis, trade unions bargain on the topics that we considered crucial for assuring a fair digital transition for all retail workers despite their gender. Thus, there not any specific measure for women in the labour market neither by social actors not by government. However, still the gender gap is quite significant within retail workforce and the actions that seem more effective are the ones that regard the qualitative aspects of the negotiation, meaning training, assuring the same opportunity of career development, as well as providing maternal leaving.

Moreover, in the fair transition debate the role of female workers is not a leading topic. While, if trade unions interpretation of digitalization in a sector, such as the retail (whose workforce is constituted by the majority by female workers) were linked with the crucial role played by women, maybe their debate will be more efficient.

Future researches are necessary for understanding whether company-based agreements are more efficient in sustaining women' rights more it would be useful comparing the retail sector with another sector where innovative technologies are spread, such as the automotive one.

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Gender Segregation in High Schools' Track Choices: A Crucial Step in the Reproduction of Gender Inequalities

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ABSTRACT: *Educational inequalities is a recurring object of study within the sociology of education, which shows that instruction does not always represent a channel of social mobility and that, on the contrary, it can amplify students' starting inequalities. Gender educative segregation has been studied especially for what concerns tertiary education: studying gender segregation in secondary education fills a gap in the literature of educational and gender inequalities and the results are relevant in terms of policy. Knowing the factors that influence the preferences of students can indeed be useful in organizing guidance school activities that aim to free educative enrollment choices from social conditioning. This paper will therefore analyze gender segregation at secondary school level, which is the first level in which students choose their own scholastic address and are divided into different paths. It is also intended to understand the characteristics of the most segregated high schools and the differences between the female and male high-segregated addresses, for what regards study's subjects and future educational and work prospects related.*

KEYWORDS: *Gender segregation, Educative inequalities, Educational transitions*

Introduction

Transitions between educational paths are fundamental moments in the reproduction of inequalities: the choices of secondary school and university faculty (or to attend university or not) are in fact strongly conditioned by personal ascribed characteristics and social rules and, as a consequence, they condition students' educational and professional future. Several studies have therefore focused on these moments of passage, identifying how different secondary and university school's paths are preferred by students with the same characteristics, so that the enrollment choices do not concern only individual preferences and scholastic skills. Studies that analyzed gender segregation (e.g. Barone, 2011; Biemmi, Leonelli, 2016; Bobbitt-Zeher, 2007; Cantalini, 2015) focused on tertiary education: boys and girls enroll in different faculties and therefore specialize in work sectors connected which different

economic and career opportunities. Gender segregation is therefore a subject that has been little elaborated on high schools' enrollment choices. The focus on tertiary education is explained by the fact that university, for those who attend it (in Italy about half of the newly high school's graduate enroll in it), represents the last step of training before entering the labor market. University majors are therefore closely linked to the career that those who finish high school hope to undertake after graduation, as well as to the job opportunities actually connected to it. Boys and girls therefore attend different university faculties and these differentiated choices affect job opportunities: as the OECD Report Education at a glance (2016) states, gender imbalances found in different university disciplines are reflected in the labor market compared to different salaries. Influenced by gender socialization, the study choices of girls and boys reproduce the traditional male and female stereotypes present in society, resulting in persistent horizontal segregation both in the training field and in the labor market. Women are generally employed in lower-paid occupations, considered less prestigious and with less career opportunities (Gender-Ed, 2018; Sartori, 2009).

1. Segregation in Italian Education

Gender segregation is not the only segregation present in Italian education (and not): in fact, in addition to educating and training its students, school has two other objectives, specifically socialization and selection. Socialization concerns the teaching of the values and behavioral norms necessary to participate in the community's life, while selection concerns the allocation of people in different social roles. Educational qualifications thus become a positional asset through which people place themselves socially and in the labor market (Schizzerotto, Barone, 2006). However, the process of acquiring a degree reflects at least in part the social conditions of students: those who come from a family with high cultural and economic capital are more likely to comply with the requests of the scholastic institution, to have the necessary support for study and to obtain good marks, but even for the same performance they are more likely to continue their studies and choose school paths considered more prestigious (Boudon, 1974). In Italy, these courses, at secondary level, are lycées: although university enrolment is not conditioned by the high school attended, it is known that the majority of university students have attended them. The other secondary schools are technical institutes, vocational institutes and vocational education and training, the latter of regional competence. Compared with the past, high school's offer has expanded and several high schools are divided into different joints or sections, which differ in the number of hours of certain subjects or in the presence or not of some of them.

Several studies show how students are divided into macro-paths depending on their parents' social class and education. Certainly, school

performance and the marks obtained also affect the choice of high school, since different levels of difficulty and commitment are associated with different courses, but for the same performance the social origin leads pupils to different paths. As regards to gender, some research shows, as is well known by those involved in school, that different paths are mainly attended by boys or by girls: girls represent the majority in (former) magistral institutes (today human sciences lyceum), in commercial technicians and vocational high schools and in lycées, especially in linguistic ones, while boys prefer scientific lycées and vocational and technical schools related to industry and crafts (Schizzerotto, Barone, 2006; Sartori, 2009). These previous data show that Italian secondary education is segregated by gender but they do not deepen analyze all school addresses (increased in recent years) nor offer a complete overview of what are the subjects, educational specialization and academic fields or work careers related to the choices of the majority of boys and girls approaching high schools.

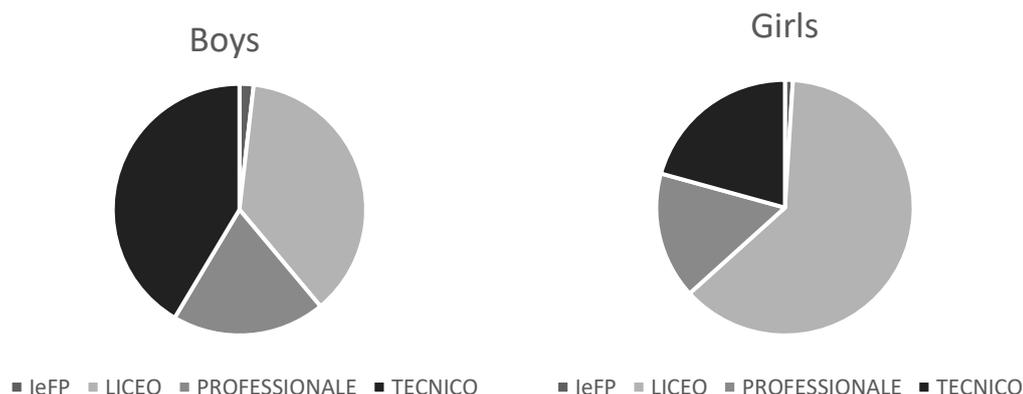
2. Methodology of Research

This analysis will use data made available by the Ministry of Education, University and Research (MIUR) within the Single Portal of Data on the School. These data present the numbers of all students of state secondary schools in Italy in the 2018/2019 school year, divided, for what concerns the analysis in question, by school address and gender. Finally, the «female» and «male» high school addresses will be identified: they are characterized by the presence of one gender at least twice as the other. This classification follows that reported in the Annual Almalaurea Report (2019), relating to the division of males and females into different university majors.

3. Analysis

With regard to vertical segregation, the 2018/19 data show that among girls, lyceum is the preferred path: almost two out of three girls enrolled in a secondary school chose this school type. The distribution of students in the three different pathways are different for boys and the percentages of enrolled in lycées, technical and vocational institutes are more similar. In contrast to the peers, the most frequented path by males is the technical institute, followed by lyceum and professional institute. This school year's data are in line with the ten-year trend showing that the technical school is the preferred choice of boys, although decreasing due to an increase in lyceum choice for both genders.

FIG. 1. Males and females in different educational paths (national population data, values %)



Source: Processing on MIUR data – S.Y. 2018/2019

TAB. 1. Males and females in different educational paths (national population data, absolute values and %)

<i>GIRLS</i>	<i>LYCEUM</i>	<i>TECHNICAL</i>	<i>VOCATIONAL</i>	<i>TOTAL</i>
<i>Enrolled by school's type</i>	766434	254618	197158	1230383
	62,3	20,7	16	100

<i>BOYS</i>	<i>LYCEUM</i>	<i>TECHNICAL</i>	<i>VOCATIONAL</i>	<i>TOTAL</i>
<i>Enrolled by school's type</i>	478950	534500	252560	1289273
	37,1	41,5	19,6	100

Source: Processing on MIUR data – S.Y. 2018/2019

61.5% of lyceum students in 2018/2019 were girls: girls therefore seem to be, already starting from the choice of high school at the age of 14, directed towards university success and, consequently, towards professional success. On the other hand, the reality of the situation is quite different and women, even on the same educational basis, do not achieve the same professional results as men. How can this contradiction be explained?

The data on horizontal segregation in secondary school level seem to provide an initial answer to this question. In lyceum schools, which should bring different educational advantages, the majority of students are girls but this presence varies according to the address, although in almost all the female component prevails. The only one in which the majority are boys is the scientific lyceum, with 57.2% of boys. The main subjects of this course are mathematics, physics and natural sciences. This data alone could support the numerous studies according to which males and females distribute unequally between humanistic or scientific fields (and then faculties): the scientific lyceum is in fact the only representative of the latter category among all lycées. Barone (2011), in a study on horizontal gender segregation in university majors, proposes a further distinction to categorize male and female highly-segregated courses: the division between humanities and scientific majors alone would not exhaust the complexity of educational gender differences,

since, although the majority of girls attend humanities courses and the majority of boys attend scientific courses, some scientific faculties have a predominance of girls among their enrolled and vice versa. The research conducted by Barone, concerning graduate students in the year 1999-2000, shows that the classic division between scientific and humanities faculties explains only half of the association between gender and degree course. For this reason, he proposes a second division, named «care – technical divide», between faculties that train their students in professions related to care or professions in which the use of technical skills is fundamental. Compared to the humanities/scientific division, which focuses on academic programs, the care/technical skills division concerns the career to which faculties prepare students. Taking up the definition of England (2005), Barone states that care professions are characterized by two particulars: face-to-face interactions with clients and activities oriented towards their well-being and personal development. Compared to these characteristics, therefore, different professions such as doctors, nurses, psychologists, social workers and teachers can be defined as care jobs, and are all occupations that have an important female numerical component. Some faculties included in the scientific field (Medicine, Biology, Nursing...) would therefore possess work characteristics related to the care category and would symbolically or functionally approach traditionally female domestic roles, such as many occupations to which students are trained in humanistic academic paths. Using a model that considers both the humanistic/scientific division and the technical/care, more than 90% of the gender segregation between academic faculties is explained. Barone then confirms that girls develop preferences for humanities and fields of study that possess connections with care work, while boys are more oriented towards scientific and academic careers that direct them to technical professions. Although Barone's study refers to university faculties, his innovation can be repeated in secondary level. Taking lycées into account again, gender distribution in these institutions is as follows:

TAB. 2. males and females in each lyceum address (national population data, values %)

<i>LYCEUM</i>	<i>Girls</i>	<i>Boys</i>
SCIENTIFIC	42,8	57,2
SCIENTIFIC – SPORT SECTION	30,7	69,4
SCIENTIFIC – APPLIED SCIENCES SECTION	31,7	68,4
TRADITIONAL SCIENTIFIC	49	51
SOCIAL SCIENCES	83,7	16,4
SOCIAL SCIENCES – ECONOMIC OPTION	73,5	26,5
TRADITIONAL SOCIAL SCIENCES	88,4	11,6
LINGUISTIC	83,6	16,4
CLASSICAL	70	30
ARTISTIC	69,5	30,5
MUSICAL AND CHOREUTICAL	56,1	43,9

Source: Processing on MIUR data – S.Y. 2018/2019

Although lycées provide the student with «the cultural and methodological tools for an in-depth understanding of reality» (as written in MIUR's website) and are therefore not based on the acquisition of technical skills but rather on the achievement of knowledge, it is possible to note that some courses are divided into paths that enhance their technical aspect. Scientific lyceum, for example, is divided into several options. The Applied Sciences option provides the student with particularly advanced skills in studies related to scientific and technological culture. From a curricular point of view, this option does not include Latin language course, provided for the traditional scientific address, but includes Computer Science: it therefore has a less humanistic system in favor of more technical courses. Looking at the distribution of students in these two paths you can see that the male presence in the Applied Sciences option is greater than that of the traditional option, in which there is nevertheless a slight majority of boys. An even higher percentage of men can be found in the scientific Sports Section option, where, excluding Latin teaching again, the subjects of Law and Economics of Sport and Sports disciplines are also studied. The model proposed by Barone is therefore confirmed: the most technical fields (Applied Sciences and Sports) are those with a high male presence, while the traditional scientific path has a more balanced gender distribution. Compared to the gender distribution among its members, in contrast to the scientific lyceum, the only male-dominated, stands Social sciences lyceum, whose specific subjects are psychology, sociology, anthropology and pedagogy. Although the other courses are also humanistic, social sciences lyceum is the one that most of all is characterized by an approach to care, both because it includes teachings that can lead to the training of professionals in the field of personal development (psychologists, educators, social workers, etc.), and because it is a school path particularly connected to a future in the school (pedagogy and psychology bases are required of those who want to enable themselves to teach). The presence of women is the highest compared to all addresses: 83.7% of the enrolled in 2018/19 were girls. Even in this field, however, there is a difference in terms of gender composition: in the traditional option the female component is higher (88.5% of girls) while the Economic-social option sees a greater balance between genders, although females still represent an important majority (they are 74.40% of the total). As reported on the website of the MIUR, the Economic-social option «provides the student with particularly advanced skills in studies related to legal, economic and social sciences», which, at the end of the course will be able to «develop the ability to measure, with the help of appropriate mathematical, statistical and IT tools, economic and social phenomena». Compared to its traditional counterpart, the Economic section therefore provides its students with technical skills in the study of social and economic sciences, at the expense of some humanistic knowledge that are more deepened the «basic» Social sciences lyceum. As with the different scientific course,

here too the option with more technical and less humanistic teachings is preferred by boys (however the minority). Baron's theory is confirmed again.

A similar discourse, although with some differences based on the specific nature of these paths, can also be made regarding technical and vocational institutes. As reported by the MIUR, technical institutes «offer a solid cultural basis of a scientific and technological nature» and «favor the development of skills that allow immediate integration into the world of work», although «it is possible to continue studies, especially in technological and economic scientific majors». The different addresses can in fact be traced back to the economic sector (2 addresses) and to the technological sector (9). To investigate gender distribution in technical institutes it is therefore not possible to refer to the humanities/scientific division, as this path is based on the acquisition of skills that can mostly be spent in relation to practical exercise: it is therefore useful to refer to the division of care/technical skills. Gender segregation in technical institutes is even higher than in lyceum (and also in professional institutes) and some courses are very close to being attended exclusively by a gender, usually the male one.

TAB. 4. Males and females in technical institutes (national population data, values %)

<i>TECHNICAL INSTITUTES</i>	<i>Girls</i>	<i>Boys</i>
MECHANICS AND MECHATRONICS	2,9	97,1
ELECTRONICS AND ELECTROTECHNICS	3,2	96,8
IT AND TELECOMMUNICATIONS	7,2	92,8
TRANSPORT AND LOGISTICS	11,0	89,0
CONSTRUCTIONS AND TERRITORY	19,7	80,3
AGRICULTURAL, AGRI-FOOD AND AGROINDUSTRY	24,6	75,4
GRAPHICS AND COMMUNICATION	42,7	57,2
ADMINISTRATION, FINANCE AND MARKETING	49,0	51,0
CHEMISTRY, MATERIALS AND BIOTECHNOLOGIES	49,4	53,6
A. F. AND M. – INTERNATIONAL RELATIONS	66,6	33,4
TOURISM	72,2	27,8
FASHION SYSTEM	81,8	18,2

Source: Processing on MIUR data – S.Y. 2018/2019

A gender segregation related to the distinction between care and technical skills is once again emerging: the courses with the highest male presence are focused on the development of technical and technological skills, while those with a high female presence, however more balanced in gender composition, focus on the acquisition of relational skills. Except for the Fashion system (technical but clearly linked to activities considered feminine, such as the creation of clothes and the interest in fashion) the predominantly female paths are linked to professions that possess at least one of the characteristics of the care jobs (face-to-face interactions with customers and activities focused on their well-being) or

that in any case are based on the relational component. The possible professional outlets of these two addresses are in fact in commercial sectors for the care of foreign relations, in the tourism sector, for the organization of events, fairs, etc. Noteworthy is the difference between the Administration, Finance and Marketing address and its articulation International Relations, examined here: after a common two-year period, the study of Administration, finance and marketing is mainly directed towards subjects such as Political Economy, Informatics, Business Economics and Law. 55.3% of those enrolled are boys, different distribution from its «relational» articulation, where the main subjects are Geo-Political Economics, International Relations and Communication Technologies and where females prevail. The segregation between boys and girls in high schools on the basis of differences in pathways is therefore also confirmed by the analysis of gender distribution in technical institutes (which as such recall a greater male presence), although important technical skills are also found in predominantly female pathways.

Finally, the situation of vocational schools shows a greater gender balance, since boys and girls attend these courses almost equally. According to the MIUR, vocational schools are conceived as «an educational model that directly links the fields of study to the production sectors of reference to offer concrete prospects of employability» through «laboratory experiences in operational contexts». More than technical institutes, these courses promise students the opportunity to learn a job and to be able to enter the world of work immediately after graduation. Although the gender distribution in vocational path is balanced between males and females, segregation within the sub-addresses is clear. There are many addresses that bring together almost only females or almost only males. On the contrary, addresses related to professions in catering, commerce and cultural services attract girls and boys in about the same way:

TAB. 5. Males and females in each field of vocational schools (national population data, values %)

<i>VOCATIONAL INSTITUTES</i>	<i>Girls</i>	<i>Boys</i>
MAINTENANCE OF MEANS OF TRANSPORT	1,8	98,2
COMMERCIAL FISHING AND FISH PRODUCTIONS	13,2	86,8
AGRICULTURE, RURAL DEVELOPMENT, ENHANCEMENT OF TERRITORY PRODUCTS AND MANAGEMENT OF FOREST AND MOUNTAIN RESOURCES	19,4	80,6
WATER MANAGEMENT AND ENVIRONMENTAL REMEDIATION	22,4	77,6
F. AND W. AND H. H. – FOOD AND WINE	33,8	66,2
FOOD AND WINE AND HOTEL HOSPITALITY	40,1	59,9
AUXILIARY ARTS OF THE HEALTH PROFESSIONALS: DENTAL TECHNICIAN	41,6	58,4
CULTURAL AND ENTERTAINMENT SERVICES	43,9	56,1
F. AND W. AND H. H. – ROOM AND SALES SERVICES	49,8	50,2

COMMERCIAL SERVICES	52,7	47,3
AUXILIARY ARTS OF HEALTHCARE PROFESSIONS: OPTICAL	54,7	45,3
INDUSTRY AND CRAFTS FOR MADE IN ITALY	71,1	28,9
F. AND W. AND H. H. – HOTEL HOSPITABILITY	72	28
SOCIAL AND HEALTH SERVICES	83,3	16,7

Source: Processing on MIUR data – S.Y. 2018/2019

The addresses with a strong female connotation are connected here also to either professions in the world of fashion and crafts or care professions. The vocational address Social and health services in fact trains to the exercise of professions in the field of education and support for social inclusion, also offering a basis in hygiene subjects to become social sanitary operators. The Hotel hospitality address, an option of the more general address Gastronomic services and hotel hospitality, forms at the hotel and tourist reception. This path, more oriented to care than the other options of its general addresses, is the only one dominated by women: Room and Sales Services option has a balanced gender distribution, while the Food and Wine option sees a male prevalence. The Industry and crafts for Made in Italy address brings together different options, linked to different aspects of industrial and artisan production: from textile, audiovisual and interior productions. The option with more enrolled is Textile and Tailoring Productions, which presents 96.6% of girls and therefore significantly affects the gender distribution of the total address. In general, within the macro-address Industry and crafts for Made in Italy, the options related to the craft sector collect more females, while those related to industry attract more boys. The male-dominated addresses are instead related to the acquisition of technical-professional skills to carry out installation, maintenance, repair and testing of technical systems and equipment (Maintenance of means of transport) or skills necessary for the production, enhancement and marketing of agricultural, agro-industrial and fish products (Fishing and Agriculture). Once again, the addresses with the highest gender segregation are those related to the technical skills/care division. This also applies to vocational schools which, although generally propose a fair distribution of girls and boys, have certain courses in which gender segregation is particularly high.

In this analysis, leFP addresses are not considered, for two reasons: because they collect a small number of students (1% of the total), and because, being a regional responsibility, the various fields are different at territorial level and therefore not available to each student.

From these data «female» and «male» high school addresses can be identified (the ones characterized by the presence of one gender at least twice as the other):

	<i>FEMALE ADDRESSES</i>	<i>MALE ADDRESSES</i>
<i>Lyceum</i>	Social Sciences (83,6%) Linguistic (80,3%) Classical (70%) Artistic (69,6%)	/
<i>Technical Institutes</i>	Fashion System (81,8%) Tourism (72,2%)	Mechanics and Mechatronics (97,1%) Electronics and Electrotechnics (96,8%) IT and Communication (92,8%) Transport and Logistics (89%) Construction and Territory (80,3%) Agricultural, Agri-Food and Agroindustry (75,4%)
<i>Vocational Institutes</i>	Social and Health Services (83,3%) Industry and Crafts for Made In Italy (71,1%)	Maintenance and Technical Assistance (98,2%) Commercial Fishing and Fisheries Production (86,8%) Agriculture, Rural Development... (80,6%) Water Management and Environmental Rehabilitation (77,6%)

The first thing that is evident is how female and male addresses are distributed differently in the three pathways, since no male address is a lyceum, while half of the female-addresses are. Moreover, in many of the male addresses, the presence of boys reaches almost the totality of enrollees: 3 courses of technical and vocational institutes have a more than 95% of male students. As regards addresses, none of these show girls rates above 85% (while some of these options have greater gender segregation in favour of girls). That means, therefore, that in male addresses it is easy to find classes in which students are only male, while in female address it is more likely that in classes, although with a near total presence of girls, one or more boys study with them.

Conclusion

This analysis of the distribution of boys and girls in secondary school confirms studies about gender segregation in university faculties, showing that boys and girls do not randomly choose their education but prefer some schools to the detriment of others. Despite significant signs of change (Sartori, 2009), the inclusion of women in traditionally male school settings, although progressive, remains so slow that it induces to study the division of males and females in different pathways as caused by an obvious persistence of gender stereotypes in training strategies (Zajczyk, 2007). Girls, being addressed to humanistic and/or care paths, choose to a greater extent lyceum courses, in which both these

characteristics are often present (even only for the possibility of teaching), but also, especially for those who do not think of continuing their studies, the technical and professional paths addressed to the professions of care. The exception to this is the field of fashion and tailoring, which, although technical, is relegated to a professional sector that has always been considered typically female. On the other hand, boys, directed towards technical paths, would choose to a lesser extent the lyceum (with the exception of the scientific one) in favor mainly of technical institutes and in part vocational institutes of a technological nature.

How can this situation be changed? Surely a good starting point would be to reorganize school guidance as not only an activity to do before transitions but rather as an orientation path starting from primary school. To consider gender differences, school action should promote basic citizenship skills and choice skills through critical and stereotype-free training (Guerrini, 2017). By helping students to learn about their skills and desires from primary school, they are unlikely to be disoriented and insecure when choosing high school, and therefore less likely to move towards those paths that are stereotypically linked to their gender and so more suitable and safer. In addition, special attention should be paid to the messages that are conveyed about the different educational routes by teachers and families. In particular, teachers in lower secondary education, who are called upon to make explicit for each pupil a guidance council according to the school they consider most appropriate for each, should question the gender stereotypes (and not only) that they themselves incorporate and that could affect their judgment and the orientation activities they offer. From the point of view of secondary schools, on the other hand, certainly the presence of many highly specific addresses favors the segregation of boys and girls in those paths designed by subjects or job prospects stereotypically associated with one gender. The almost total presence of students of the opposite gender in a school address can also discourage those interested in that path (Biemmi, 2016), thus contributing to a greater gender segregation. Today, the total number of high school education courses (including lycées, technical and vocational institutes) is 28. To these, however, are added the different options or articulations in which the majority of the addresses are divided. Students at the end of middle school are therefore faced with a multitude not only of macro-paths but also of addresses and sub-addresses. The stratification of education systems has the advantage of directing workers to the different work positions for which they have studied, and a highly specialized school system such as the Italian one certainly trains students towards different occupations. The disadvantage of such a system, however, is to reduce the chances of teachers and families of fully grasping the intellectual potential and predispositions to learning of individual pupils: in this way the social background of the family particularly affects the choice of students (Schizzerotto, Barone, 2006). Although in Italy pupils choose their school around the age of 14,

so a few years later compared to other educational models, it is possible that they still do not have a clear idea of their skills and potential and the professional future they could undertake. The fact that there are many addresses then contributes to greater confusion, and it is easy for pupils to be conditioned by their gender, and by beliefs and stereotypes about it, when choosing their path. Could reducing addresses or reorganizing them so that they become less specific help reduce gender segregation in secondary education?

In any case, it is extremely important to deepen the issue of gender segregation in high schools and the mechanisms that contribute to its formation, given the huge difference in educational and work opportunities of the paths to which boys and girls are directed. The division of boys and girls into different schools leads to the development of diversified knowledge and skills between genders, which contribute to the strengthening of stereotypes and to different educational, working, economic and social conditions of men and women. Although vertical gender segregation is also evident (girls attend lycées to a greater extent), it is on horizontal segregation that the focus of the study of educational inequalities should be focused, since, in addition to being transversal to all three school paths considered, this is the one that contributes mainly to the division between men and women into different educational and professional paths, connected with the internalization of roles and gender characteristics learned since children.

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Feminist Knowledge and Methodologies in Education: Opportunities and Challenge

Breaking Barriers: Understanding the Obstacles faced by African Women in STEM in Trinidad and Tobago

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ABSTRACT *The central aim of this study is to examine the wage returns of African women, trained in the fields of Science, Technology, Engineering and Mathematics (STEM), within Trinidad and Tobago's Public and Private Sector Enterprises. To do this, the Continuous Sample Survey of Population (CSSP) data for the period 1991-2015 is used to estimate a Mincerian Earnings Function via the quantile regression methodology. This study finds that the composition of African in STEM fields have been on the rise. The estimates derived from the quantile regression shows that the wage returns of African women in STEM fields have largely declined throughout the timeframe. Women employed in low- and middle-income STEM jobs, tend to earn more than those in high income jobs. This is likely to be the case if this segment of women is unable to hold high level positions within these public and private enterprises. It was found that if the proportion of African women entering STEM fields were to increase by 10% then this would cause her average returns to rise by 1.9%, however with the inclusion of additional vectors of covariates, this would lead to a negative shift in her returns. Even though this impact remains positive and significant, the shift appears to favour African women in STEM fields who are highly skilled, is of the working class, with university level qualifications.*

KEYWORDS: *Mincerian Earnings Function, Quantile Regression, Recentered Influence Functions (RIF), Ethnicity, STEM*

Introduction

The underrepresentation of African women in STEM fields is a problem which is quite widespread around the world, particularly in the United States (US). In Trinidad and Tobago, the integration of students in STEM fields at the secondary, and university level is of interest by both the labour market, because of the rising demand and supply of job seekers in the STEM field. Such demand has led to the development of several initiatives such, as internships, camps, and school-based interventions (NIHERST, 2013).

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Even though there is great interest in STEM, African women in STEM fields within the labour market holding graduate level qualifications are underrepresented. For this reason, highly educated African women in STEM may not be holding high positions of leadership. It therefore becomes imperative to examine the wage returns of this segment of the working population. Because as we move into the 4th Industrial Revolution, technological innovations tend to change the way the labour market creates value. A study of this nature is important because based on its empirical findings, we can now ask the question, i.e., how do we empower all Women of Colour (WOC) in STEM in Trinidad and Tobago to create this value?

There are several gaps within the literature, there is no quantitative studies which looks the earnings of African women in STEM in Trinidad and Tobago, as authors take a more qualitative approach, due to a lack of data (Blackburn, Heppler, 2019). It is here where this study closes this gap, by answering one question, i.e., how does the wage return of African women in STEM change over the period 1991-2015?

This paper contributes by examining the wage returns of African women trained in STEM fields over the entire wage distribution. It broadens the empirical which implements the quantile and RIF regressions. It develops the literature which focuses on African women in STEM fields in Trinidad and Tobago. Using CSSP data for the period 1991-2015, this paper estimates the Mincerian Earnings Function using the quantile regression methodology to first examine the returns of African women in STEM, and the RIF regression to scrutinize the Unconditional Partial Effects (UPEs) resulting from the inclusion of differing covariates.

By using these methods, this study finds, in the first instance, the segment of African women in STEM have been improving steadily throughout the 1991-2015 period. Second, even though most African women employed in STEM fields are not married, they do have a significant amount of working experience. Third, for this specific group of women, the incidence of overeducated is high. Fourth, the wage returns of African women in STEM seems to have deteriorated throughout the 1991-2015 period. Fifth, the estimates indicates that STEM women employed in low- and middle-income jobs, earn more than that women in high income jobs. Fifth, if the number of African women employed in STEM fields were to grow by say 10%, her average wage would improve by 1.9%, but decline considerably when additional vector of covariates reflecting her social class, and age group is considered. With only those who are highly skilled, is of the working class, with university level qualifications being showed greater preference.

The following section of this paper provides a brief review of the literature on the experiences of African women in STEM fields. A short discussion on the data, and descriptive statistics. Following by, the econometric methodology, the findings, and its analysis, after which the study is concluded.

1. The Challenges of African Women in STEM

The volume of women entering the STEM field over the past decades have grown at a fast pace. However, the representation of African American, Latin American, and differently abled women in STEM continues to be small (Garcia-Penalvo, 2019). According to Aronson, Fried and Good (2001), a stereotype threat concerns how academic performance is perceived by persons and higher educational institutions, based on their ethnic heritage. In most cases, based exclusively on race, African women are perceived to have smaller grades in STEM. The result of such negative stereotyping not only erodes her academic ability, but also her capacity to actively engage persons in her field. This makes them more vulnerable to performing poorly in academia and devaluing her sense of self (McGee, 2016).

At an academic level, gender bias often occurs when the directors of STEM labs show greater preference for men, than that of women, because STEM men tend to be more boastful about their achievements, while those of African women are often underreported (Bankston, 2017). Such underestimations may lead to less self-efficacy, fewer positive outcomes, and poor mentorship, while working/learning in a discouraging, and toxic environment (Borum, Walker, 2012).

Most factors such as in/out-group orientation, rigorous academic environments, i.e., crooked rooms, and social status, as well as negative cues by lecturers and students also determines whether African women stay in their chosen STEM field. In addition, large classrooms, the asking and answering of questions during discussions, as well as her ability to engage in undergraduate research, all limits her interests in STEM, and puts her at a higher risk of underachieving at an undergraduate level (Johnson, 2007).

The mentorship of African women in STEM is of great importance because if exposed to mentors of the same race, gender, and area of expertise, then the likelihood of them stay within her field improves, as she feels less isolated, and more nurtured. Presented with such a safe environment, African women may conform less to the cultural norms of STEM fields such as toxic masculinity, sexism, and racism through microaggressions (Pietri et al., 2019). This sense of Fictive Kinship according to Fordham (1996), develops as the African women in STEM, begins to feel a sense of collective identity with their mentors. However, this may become a barrier if women are pressured to engage in interactions which are exclusively African oriented.

The maintenance of kinship relationships may lead to microaggressions, i.e., subtle forms of racism within the STEM pipeline, and according to Soloranzo (1998), may influence her alignment with suitable mentors in her field. The existence of such gender injustices may limit the ability of African women to hold leadership positions in STEM fields (Blaney, 2020). As male dominated fields such as Computer Science

and Engineering, tend to lack formal leadership roles and training opportunities for African women (McCullough, 2018).

Finally, limited research highlighting the academic research of African women in STEM fields, is another barrier encountered as there are fewer journals publishing research on interdisciplinary topics involving women in STEM. This also diminishes the impact that their research is likely to have had they been included in STEM resources.

2. Data and Descriptive Statistics

2.1 Data and Descriptive Statistics

The sample data used in this paper was extracted from the CSSP dataset. Using CSSP data for the period 1991-2015, a sample of women ages 15-65, who are employed on a full-time basis, within public and private sector enterprises was chosen. This group comprises of women who are of an African and Indian heritage. The sample of Indian women is included as a robust check, as it is the second major group of WOC in Trinidad and Tobago.

This study controls for a host of variables, inclusive of potential working experience, i.e., potential working experience=age-years of schooling-5, marital status, mothers' education, age ranges (age range ≤ 24 , between 25-35, between 36-50, between 51 and 65), social class identification, year of data collection, county, industry of employment, occupational grouping, presence of educational mismatch, and level of training. In this study, educational mismatch is defined, «as the situation where the education qualifications of an employee do not match the qualifications required for the job they do» (Mahuteu et al., 2014, 2).

To classify the worker in the STEM field, the workers information on their field of training is aggregated into eleven fields of expertise (Science, Engineering and Architecture, Medicine and Veterinary Science, and Mathematics and Computer Science, arts, humanities and education, social science, business, law, trade, craft and industrial arts, transport and services and law enforcement), and then classified as either STEM, or non-STEM.

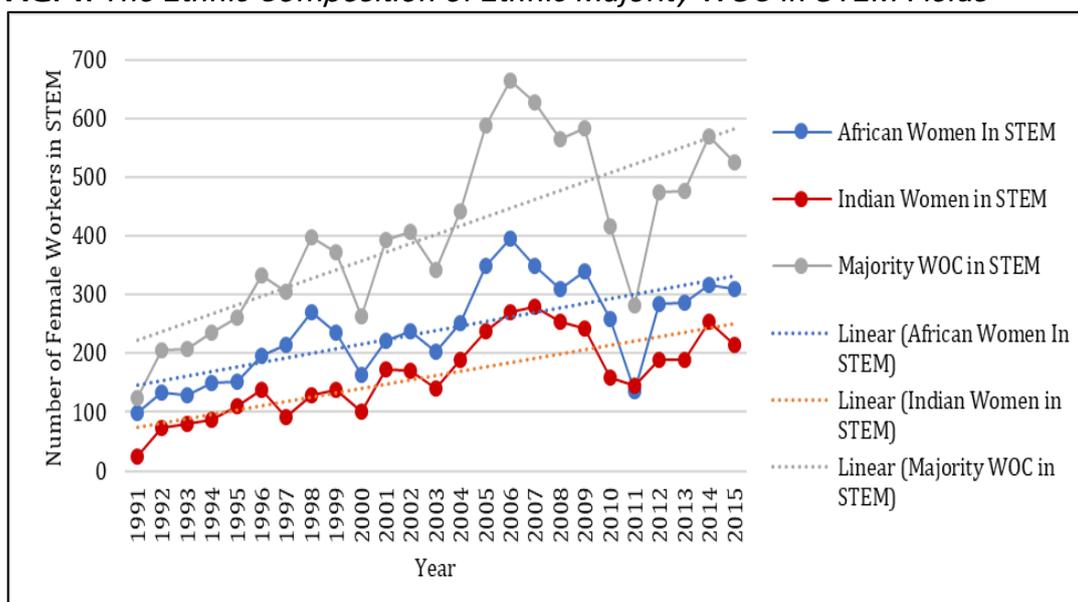
The three categories of social class identification are constructed to group workers based on their skill, income group, and educational qualification. These classes are hierarchical groupings based on the wealth (upper-middle, middle, working, low), educational attainment (primary, secondary, university) and or skill set (high and semi-skilled) of the person. These classes have many competing definitions in the literature, for this reason, this study will follow a four-tier model based on the three-tier model used in the US, as it considers the level of taxation, non-taxable income, and access to social services.

Selected descriptive statistics shown in Table 1, reveals that the 35% of the overall sample of women appears to be married, have average earnings of TT\$23.58 per hour, and TT\$43,899.08, annually. Most women

appear to be overeducated, then undereducated. Based on ethnicity, a greater portion of Indian women appeared to be married and benefitted from significantly higher earnings than African women.

The sample of African women in STEM, reveals that they earn less per hour, and annually. They are less undereducated, more overeducated, have less schooling, but more working experience, than Indian women in STEM. This implies that, African women in STEM may be entering the labour market earlier. This is confirmed by Fig. 1, which shows that the composition of African women in STEM fields in the labour market, which although fluctuating throughout the time frame, is not only higher than that of Indian women in STEM, but both ethnicities appear to be growing after 2012.

FIG. 1. *The Ethnic Composition of Ethnic Majority WOC in STEM Fields*



Source: Own Calculations.

TAB. 1. *Summary Statistics of the samples of African and Indian Women in STEM (1991-2015)*

Variables	Mean				
	Full Sample	Ethnicity		STEM fields	
		African	Indian	African	Indian
Married	0.35	0.29	0.44	0.32	0.41
Real Hourly Wage	TT\$23.58	TT\$22.40	TT\$25.37	TT\$24.79	TT\$29.00
Annual Income	TT\$43,866.08	TT\$41,677.37	TT\$47,206.86	TT\$46,091.23	TT\$53,890.84
Undereducation	0.13	0.14	0.11	0.09	0.04
Overeducation	0.16	0.15	0.16	0.15	0.18
Schooling	12.48	12.26	12.81	12.40	13.26
Working Experience	16.92	18.01	15.25	17.81	13.43
No. of Observations	45,515	27,499	18,016	5,987	4,075

Source: Own Calculations.

3. Econometric Methodology

3.1 Quantile Regression

The theory upon which this paper rests heavily upon is that of Human Capital Theory (HCT). According to Becker (1962) the educational activities of persons tends to influence their future well-being, through educational investments. Although the amount invested may influence the wages earned, the economic welfare of persons, tends to differ a great deal by their household income, the type of training received, and the type of educational institution attended.

Most of the training which takes part on the job, is of either a general or a specific form (Becker, 1975). When one has general training their skills and abilities can be applied to a multitude of tasks in different firms. This would lead to higher future earnings being offered, as the firm captures some of the returns derived from general training. When the training received increases the productivity of persons by different amounts, where the firm providing the training benefits the most, the worker has specific training. Here the benefits which accrue, may be more beneficial to certain firms, than others.

The way in which men and women respond to higher education is also different, because the net benefits derived by women in attending college, far outweighs that of a secondary education, and is higher than that of men (Becker, 2010a). This may be because the rising enrolment of women in higher education programmes, reduces the inequality of noncognitive abilities. Where, the higher these abilities, the greater the supply and demand of college education for women (Becker, 2010b).

To estimate a Mincerian earnings function developed by Mincer (1974) and Koenker and Hallock (2001), to examine the returns of African women in STEM fields, the quantile regression is specified as,

$$\ln w_i = \beta_0 + \beta_1^{STEM} E_i^{STEM} + \beta_2 A_i + e_i \quad (1)$$

$$\ln w_i = A_i \beta_\tau + e_{\tau i}, \tau(\ln w_i | A_i) = X_i \beta_\tau \quad (2)$$

where for the i^{th} female worker, $\ln w$ is the natural logarithm of the real hourly wage, β_0 the returns associated with having no working experience or education, E^{STEM} refers to if she has training in a STEM field, β_1^{STEM} is the rate of return associated with her training in the STEM field, A is a vector of control variables, β_2 is the returns associated with the control variables, e the error term, β_τ the unknown vector of parameters (constant), τ the sample quantile, and $\tau(\ln w_i | A_i)$ the conditional quantile (τ) of the i th woman in STEM hourly wage rate ($\ln w_i | A_i$) given the vectors of independent variables, and e is the error term.

3.2 Unconditional Quantile Regression

To examine income inequality, the Recentered Influence Function (RIF) regression developed by Firpo, Fortin and Lemieux (2009), is estimated.

Influence Functions (IF) are used to examine the sensitivity of distributional statistics such as the mean and quantile regression, to small changes in the sample data, while the RIF estimates captures the changes in the independent variables, on the unconditional distribution of the dependent variables. The resulting estimate then harnesses the partial effect of a small location shift in the distribution.

In the case of this study, consider the cumulative distribution function B , which reflects the income (Y , dependent variables) of the l th woman trained in a STEM field. Where the relation $v(B_Y(y))$ uses the data from vector of independent variables A , to approximate its distributional statistic. To determine the effect that the change in this distribution is likely to have on the distributional statistic, the index from B is traded, with an alternative distribution $C_Y(y)$. This change, i.e., $\Delta a = a(C_Y) - a(B_Y)$, occurs the inclusion of additional women in STEM, will influences the position of all women along the distribution, thus contaminating the sample (Rios-Avila 2020). The extent of this change hinges on the shift from $B_Y \rightarrow C_Y$. By homogenizing this shift, in terms of the measure which it quantifies, i.e., $\Delta^b a = \frac{\Delta a}{\Delta(C_Y - B_Y)} = \frac{a(C_Y) - a(B_Y)}{\Delta(C_Y - B_Y)}$ the Gateaux Derivative, i.e., a derivative of a at $B_Y \rightarrow C_Y$, illustrates how, a shifts in response to changes in B , i.e., $\Delta^b a$. Known as the «Unconditional Effect» (UE), this measure looks for shifts in the income distribution, where based on Choe and Van Kerm (2018), when adapted for this study is specified as,

$$UE(a(B), i): = \nabla a_{C_Y \rightarrow B_Y} \quad (3)$$

The size of UE depends on the divergence between the conditional distribution, and the control variables, i.e., A . This divergence can be written as, $C_Y(y) \equiv \int B_{(Y|A)}(y|A = a). dB_A(a)$.

The UE, permits successive IF of small shifts i.e., t , in the composition of women in STEM, which when adapted from Firpo, Fortin and Lemieux (2009), for this study is specified as,

$$IF(y; a, B_Y) = \lim_{t \downarrow 0} \frac{a(B_Y, t.C_Y) - a(B_Y)}{t} = \int IF(y; a, B_Y). d(C_Y - B_Y)y \quad (4)$$

RIF regressions which produce recentred statistics are often used, and is specified as,

$$RIF(y; a, B_Y) = a(B_Y + IF(y; a, B_Y)) \quad (5)$$

Simply put, the UPE explains how inequality among all African women in STEM will change when characteristics change. For this study, four vectors of covariates are used, i.e., UE (biographical data, age group, marital status, and working experience), UPE1 (social class identifications-skill, income, education, and age groups), UPE2 (occupational and industrial employment groupings), UPE3 (country of residence).

4. Analysis and Discussion

4.1 *The Returns of African Women in STEM*

The predicted wage returns of African women in STEM fields, illustrated by Fig. 2(a), reveals that during the period 1991-2015, these women experienced an average return of 2.6%. Turning to the QR estimates, three interesting patterns were found, first the returns of African women in STEM have largely declined throughout the wage distribution. Second, the highest returns are experienced at the lower deciles, and the lowest returns at the higher deciles. Third, women employed in low- and middle-income jobs, earn much higher returns than that if employed in a high-income job.

It is possible that the earnings may be declining across the wage distribution because their level of participation may be falling in high income jobs. This may be indicative of the presence of the glass ceiling effect, the lack of opportunities for women in STEM, their inability to find a better paying job, and the continued dominance of men in these roles. This outcome may also be a shadow of more important problems resonating from the glass ceiling effect, such as gender bias and gender stereotyping at high level positions in the business environment. In comparison, given that low- and middle-income women are earning more, this implies that their skills are more valued at these points in the income distribution, and there may be more value creation and opportunities available for African women in STEM fields in non-STEM jobs.

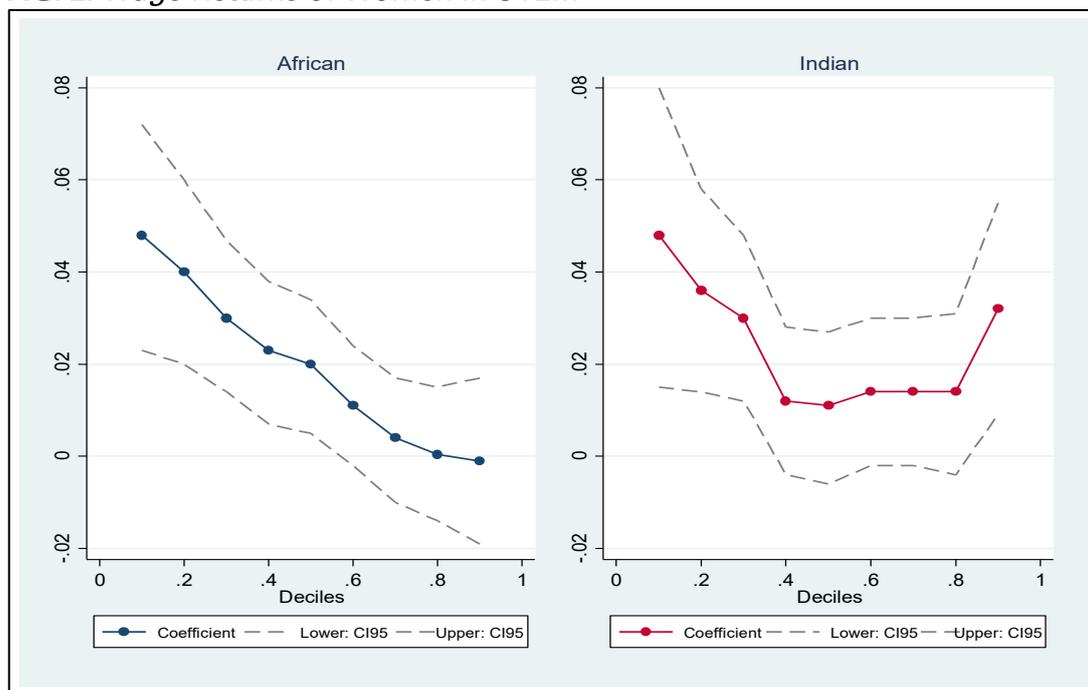
To ensure that these findings hold, the wage returns of Indian women in STEM fields is estimated as a robust check, and the outcome illustrated in Fig. 2(b). A comparison of both estimates, reveals first, that the average returns of Indian women is higher than that of African women. Second, the education of Indian women mother's appears to have a significant and positive impact on her daughter's average wage, as opposed to the mothers of African women in STEM which is negative. This result implies that there is greater need for mothers to become more educated and involved in the educational pursuits of their daughters.

The returns of Indian women appear to be higher than that of African women across the wage distribution. Their returns seem to decline consistently but improves slowly at the midpoint of the distribution. This difference may be due in part to the ability of Indian women to hold higher job positions and academic credentials in STEM, as opposed to African women in STEM may be struggling to hold positions within the STEM pipeline.

Third, Indian women in STEM tend to earn more if employed in low- and high-income jobs, than that of middle-income jobs. The returns of middle-income Indian women are lower than that of African women, because the latter group may be better suited to the job requirements of this cluster, and there may be differences in the networking capabilities of both groups of women. Fourth, the industry of employment and the

county district in which Indian women in STEM live, appears to have a greater negative effect on her returns throughout the wage distribution, than that of African women in STEM.

FIG. 2. *Wage Returns of Women in STEM*



Source: Own Calculations.

4.2 The Unconditional Effects of African Women in STEM

Based on the findings above, one seeks to examine how the distributional statistics will change, in response to the changes in the composition of STEM women in the labour force. According to Fig. 3(a), if the proportion of African women in STEM, were to increase by say 10%, then she may experience an average wage return of 1.9 at UE. When additional covariates are included, the magnitudes of such an increase, now falls to 1.23 at UPE1, 1.16 at UPE2, 1.15 at UPE3, at the mean.

Even though the impact on her average returns remains positive and significant, this negative shift, shows that with the inclusion of additional covariates they all exhibit negative trends. So, if there is an increase in STEM women, then wages of African women also in STEM would increase more at the bottom of the wage distribution, compared to the top.

Examining the change in the STEM coefficient estimates of African women while controlling for all other variables reveals that the average returns of the UE vector were positively influenced by her age and marital status. This may be because she may be more established in her field and financially stable. While younger women may have earned lower returns possibly due to gender bias, stereotyping, less working experience, and greater financial instability. As African women in STEM become older,

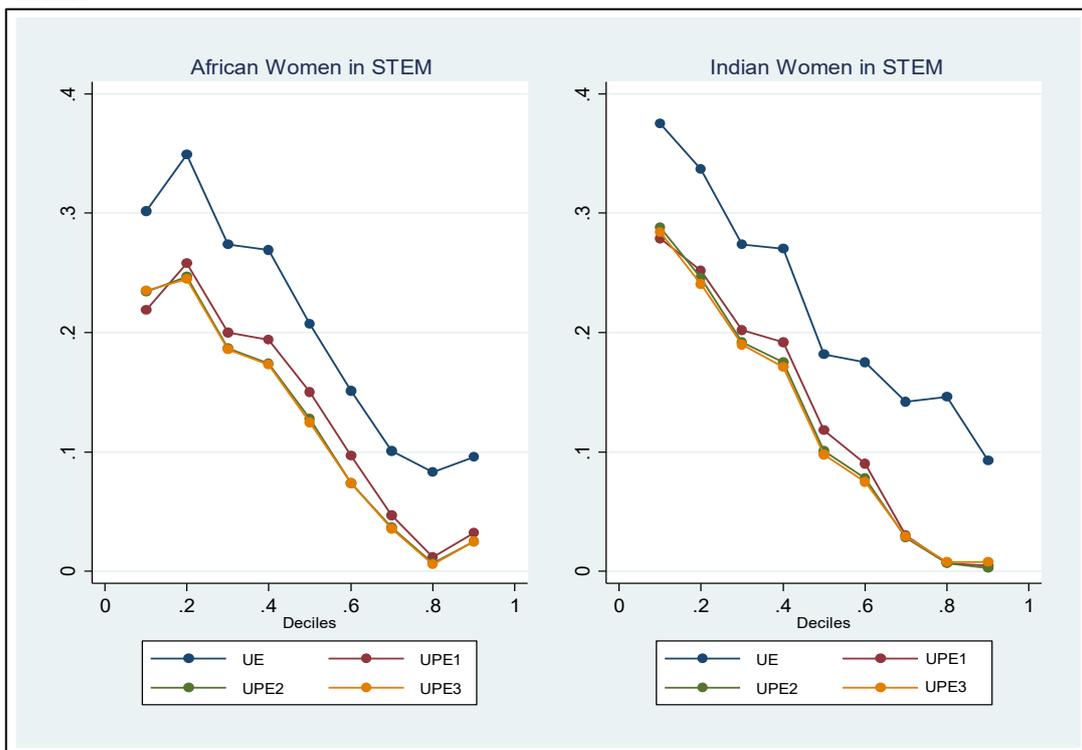
they may be better equipped to dealing with these issues through proper networking, and mentorship.

The outcome of the UPE1 covariate was influenced positively if African women in STEM was a married adult, has working experience, is highly skilled, and has a university education. Her average returns were negatively impacted if she is unskilled, comes from a low-income bracket, and has primary level education.

When the UPE2 vector was introduced as a robust check, her returns were influenced positively if she was a young adult, single, had working experience, university qualifications, and employed in a professional capacity, within the extractive and public utilities industries. The inclusion of the final group of covariates UPE3 as robust checks were positively influenced by the same variables as UPE2.

As a check of robustness, the influence of the covariates is also examined for Indian women in STEM fields. The outcome is illustrated in Fig. 3(b), although higher than that of African women in STEM, shows a very similar outcome. Supposing that the proportion of Indian women in STEM were to increase by 10%, even with a higher average return of 2.3 at UE, with the inclusion of the additional covariates there is a similar drop to 1.36 at UPE1, 1.32 at UPE2, and 1.30 at UPE3. The outcome was influenced by a similar group of variables as above for African women.

FIG. 3. *Unconditional and Partial Effects (UE, UPE1, UPE2, UPE3) of women in STEM*



Source: Own Calculations.

4.3 Unconditional Partial Effects (UPE1) of African Women in STEM

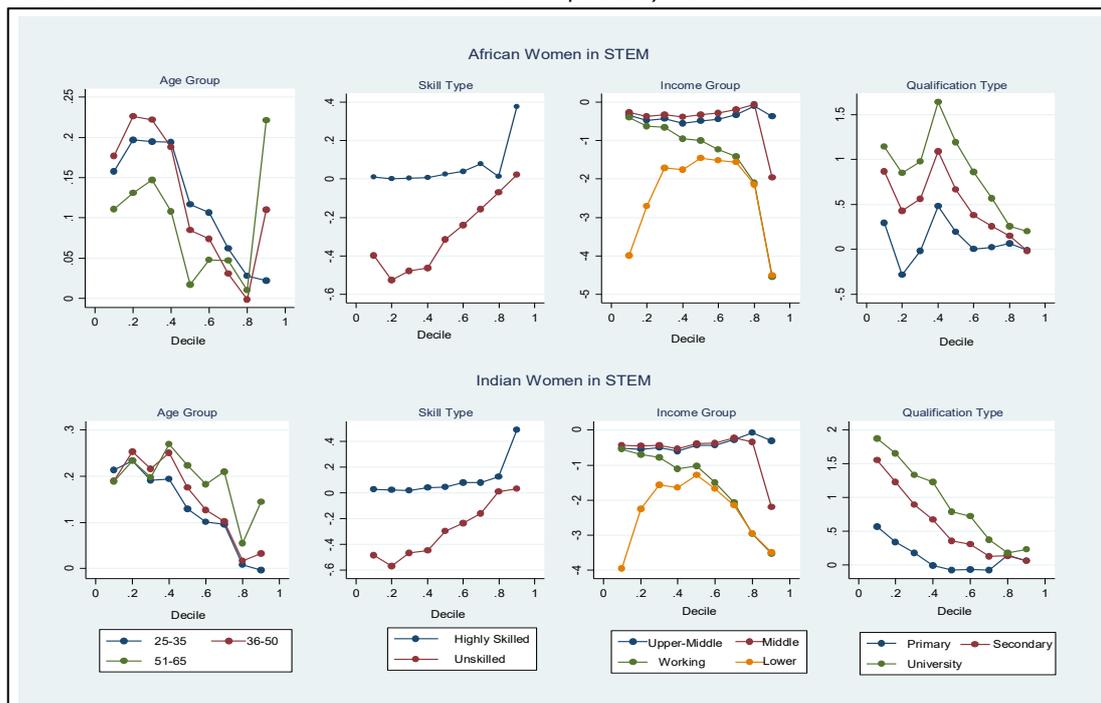
Focusing on the areas of social class identification, and the age, illustrated by Fig. 4 reveals that if the proportion of African Women in STEM were to increase, the shift in her returns would tend to favour women between the ages of 36-50 as the wage penalty is lowest at the lower deciles, and highest at the higher deciles.

When considering her skill set, the shift favoured African women who are more highly skilled in STEM. Where the former group wage penalty would be lowest at the higher deciles, and highest at the lower deciles along the wage distribution. It is possible that these highly skilled women may benefit from higher returns in low-income jobs because it may be a profitable niche market environment, greater room for creative freedom, and a loyal customer and employer base.

When looking at the income group the shift appears to favour the working class, and to a lesser extent the upper-middle/middle class, and not low-income women. The inequality may be a result of different levels of experience, education, networking, and gender bias present in that portion of the labour market which employs STEM workers.

Finally, the shift favours African women with university level qualifications, and not secondary/primary level qualifications. This impact may stem from a range of issues, such as lack of mentorship of university educated STEM women with academic and the industry, the presence of gender bias and stereotyping of African women, and the lack of professional development opportunities in STEM.

FIG. 4. *The Unconditional Partial Effects (UPE1) of Covariates*



Source: Own Calculation.

To determine if the above findings hold, the effect is also looked at for Indian Women in STEM. The results shown in Fig. 3 (panel b), is similar that of African women in STEM in terms of their skill type and income groups, except that there is a greater preference for Indian women in STEM fields to be younger (ages 25-35). Supplementary checks of robustness, reveal that regardless of ethnicity, with the inclusion of the two additional vectors of covariates (UPE2 and UPE3), as the proportion of women in STEM increases, the presence of inequality will decline. This is consistent with the previous result as, they suggested wages at the bottom may raise faster than wages at the top of the distribution, which reduces inequality.

Conclusion

The representation of African women in STEM fields is one of many challenging issues facing the labour market where integration and gender inequality is concerned. This study finds that the number of African women employed and have training in STEM fields have grown considerably during 1991-2015. The wage returns of African women in STEM appears to have deteriorated across the wage distribution, as those in low- and middle-income jobs, have the highest earnings. If the number of African women in STEM were to grow by for example 10%, her average wage would increase by 1.9% initially, but when additional covariates are included, then this increase would decline, leading to a negative shift in her returns. With only those who are highly skilled, of the working class, with university level qualifications benefitting the most.

The main catalyst for such problems originates from the stereotype threat of all WOC, the presence of gender bias, poor mentorship, microaggressions, and gender injustices. These matters all limit the participation and representation of WOC in STEM. There are several strategies that can be adopted to enhance the representation of all WOC in STEM fields in Trinidad and Tobago, inclusive of: the design of programmes at the primary level to prepare young female students at the Standard 3 level and above to easily enter STEM fields at the secondary level. By providing them with exposure and a supportive network at an early age, this may reduce the stereotype threat that young girls in STEM, may experience in higher education and in the workplace. Also, the building of academic and industrial networks would help women to be exposed to industry and academic professionals who may be better equipped to provide career guidance in STEM. By encouraging the creation and growth of such a network, it is likely that more WOC will be attracted to the STEM fields in the Caribbean. This counteracts the problem of gender bias, and promotes gender equality, and diversity in STEM.

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Between Theory and Practice. Feminist Pedagogy as Intersectional Activism

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ABSTRACT: *As Bell Hooks emphasized in her article from 1991 *Theory as Liberatory Practice*, the power of liberatory feminist education for critical awareness that would be able to reinforce our collective repression is situated in the conviction that there is no split between feminist theory and practice. Taking into account Hooks' idea that the production of theory is a social practice that can be both liberatory and hegemonic, as well as building on the idea of practising feminist social pedagogy in the framework of Nancy Fraser and Chandra Talpade Mohanty thoughts, the following article will explore the possibilities of building a feminist political-intellectual coalition through using feminist theory and conducting academic workshops in collaboration with feminist NGOs, non-governmental collectives and individual activists.*

KEYWORDS: *feminism, pedagogy, Bell Hooks, Nancy Fraser, Chandra Mohanty*

Introduction

As Bell Hooks emphasized in her article from 1991 *Theory as Liberatory Practice*, the power of liberatory feminist education for critical awareness that would be able to reinforce our collective repression is situated in the conviction that there is no split between feminist theory and practice (1991). Taking into account hooks' idea that the production of theory is a social practice that can be both liberatory and hegemonic, as well as building on the idea of practising feminist social pedagogy in the framework of Nancy Fraser and Chandra Talpade Mohanty thoughts, the following article will explore the possibilities of building a feminist political-intellectual coalition through using feminist theory and conducting academic workshops in collaboration with feminist NGOs, non-governmental collectives and individual activists.

Following Bell Hooks. Practising the feminist theory

The idea of academic workshops emerged in 2018 at Institute of Polish Culture at University of Warsaw when my PhD supervisor, prof. Marta Zimniak-Hałajko invited me to co-conducting the course «Anthropology

of sexuality» in the period between February 2019 and June 2019. The seminar «Anthropology of sexuality» was an introduction to the area of sex research and cultural creation of discourses of sex and sexual practices, and my task was to help with preparing theoretical and practical classes, in particular, in organising workshops with Sistrum Association which specialised in supporting lesbian and female queer culture in Poland. The year later, between February 2020 and June 2020 I conducted by myself the seminar called «Anthropology of Sexuality: Politics, Feminism, Queer» as a course offering an introduction to the contemporary research fields related to sexuality, especially feminist and queer approaches in the framework of anthropological and cultural studies. Finally, in the period of February 2021 and June 2021 my second authorial course called «New feminism theories» focused on the contemporary research fields related to feminist studies.

All courses lasted 30 hours each, were held at the Institute of Polish Culture at the University of Warsaw and were dedicated to both students from cultural studies as an elective course (optional seminar) and from the other fields thanks to the concept of «general university courses in the humanities» at the University of Warsaw. Also, each of the workshop was conducted in collaboration with women-led NGOs, non-institutions organisations, collectives and individual activists. Although, as has been pointed out, seminars were held between February 2019 and June 2021, for the purpose of this article the matter of concern will be, in particular, classes that took place throughout the course «New feminism theories». During this seminar students were familiarised with a variety of perspectives conceptualised within feminist thought in order to examine the polemical and dialogical relationship between classic feminist theories and its modern reinterpretations. On examples of reading materials and workshops with activists from Poland the seminar discussed such issues as, among others, feminist epistemology, concepts of local and transnational feminism, feminist perspectives on power, feminist practises of resistance, nonheteronormative, queer and ecological approaches within the feminist movement.

The crucial concept of the course was based on conviction that practical workshops with feminist NGOs and non-institutional activists are as important as reading the assigned materials. Through the idea of equality of both theory and practice, the seminar tried to incorporate Bell Hook's thought presented in her text «Theory as Liberatory Practice» (1991) that was first published in 1991 and then included to the broader book *Teaching To Transgress. Education as the Practice of Freedom* issued by Routledge in 1994. «Theory as Liberatory Practice» was a crucial literary position for the seminar that was endeavoured to elaborated on the various meanings and functions of feminism, including, in particular, feminist theory describing through categories such as «intervention», «lived experience», «healing», «imagining», «localising the pain». Following Hooks' categories through interpretation paths, the course focused on writing on feminist pedagogy by Bell Hooks

from the early 90's. Her texts dedicated to feminist theory and teaching from this period were especially helpful as well as intimate and emotional, especially passages from *Teaching To Transgress*. As she wrote in 1991:

I found a place of sanctuary in «theorizing,» in making sense out of what was happening. I found a place where I could imagine possible futures, a place where life could be lived differently. This «lived» experience of critical thinking, of reflection and analysis, became a place where I worked at explaining the hurt and making it go away. Fundamentally, I learned from this experience that theory could be a healing place (Hooks, 1991).

The powerful emotional charge from the above passages suggests us several interpretational possibilities. Since hooks finds in theorising a place of liberatory while imagining possible futures, she also claims that the production of theory can be a hegemonic experience. After all, in *Teaching To Transgress* she emphasises the problem of the race, gender and class hierarchy within the academia, including the issues such as appropriation of theories producing by less powerful subjects. In this context, hooks criticizes liberal white feminism, referring to the problem of academic hierarchy and white supremacy within university policies. Describing the practice of quoting unpublished texts from black theorists, she analyzes the theorizing process within the flow of feminist ideas which very often takes place in a way that is marginalizing for some particular subjects. This problem refers to the hermetic nature of the theory located on the top of the academic hierarchy, which determines what can be defined as «theoretical» and what does not belong to this definition becoming a theoretical «insufficient» product. In such situations, as hooks notes, the work of black theorists and white theorists from marginalized groups (in particular non-heteronormative people) is devalued. The production of feminist theory is therefore complicated because, as she emphasises, it should not concern the process of individual theorizing that comes from drawing from the community, but refer to the idea of collective work. In this case, she also criticised the privilege of written theory over spoken stories and narratives.

The last struggle seems especially crucial for hooks, who emphasises that in various situations the process of production of theory takes place in practice through oral narratives, in particular with respect to feminist political activism. Pointing out that knowledge production in academia should be less elitist, more comprehensive, and useful in the framework of intersectional political struggles, she remarks in «Theory as Liberatory Practice»: «Hence, any theory that cannot be shared in everyday conversation cannot be used to educate the public» (Hooks, 1991). Therefore, she suggests that the power of liberatory feminist education for critical awareness, which would be able to reinforce our collective repression, is situated in the conviction that there is no split between feminists theory and practice. Following Bell Hooks idea, the seminar

«New feminism theories» tried to be considered as important process of the flow of feminist ideas between the academy and external institutions, local NGOs, non-government organisations or individual activists.

Thinking of the relation between theory and practice

Based on the analysis of literature accompanied by workshops with social activists, the aim of the course was, therefore, to focus on bell Hook's idea that theory could localise pain and suffering, and as a result is able to be a «healing place». In this respect, as apart from theoretical classes, in the framework of the seminar took place workshops with Feminoteka Foundation, Bezpestkowe Group, Women's Grantmaking FemFund, as well as grassroots initiative Podżegaczki and Girls to the Front. The choice of above mentioned organisations and activists was related to the intention of inclusion broadest possible of feminist practitioners from Poland, in particular, considering their politics regarding the issue of age, residence, ethnicity, race, gender and sexual identity. Consequently, each initiative was formed by different age group (and also focus on women, non-binary, trans and queer people, from different age group), was active in different region in Poland (both in cities and rural areas), and supports various ethnicities and race (both Polish and migrant women). All organisations and collective also performed different activities in order to responding to the needs of women and girls in the process of struggling for equal rights. For example, Girls to the Front is focused on zine making practises and animate feminist and queer music community in Poland (<https://www.facebook.com/allgirlstothefront/>), Podżegaczki is concentrated on aspect of women's reproductive rights in Poland, including instigation to protests, happenings and demonstrations in public sphere (<https://www.facebook.com/kolektyw.podzegaczki/>). «Bezpestkowe» group aims at supporting women with Mayer-Rokitansky-Küster-Hauser syndrome (women without uterus) through making the public aware of it, connecting women and doctors in order to answering bothering questions, getting useful information and medical assistance regarding MRKH syndrome (<https://bezpestkowe.pl/>). In contrast, Feminoteka Foundation is the public benefit organisation that familiarise women with anti-violence activities through undertakes actions such as, for example, the Anti-Violence Network of Women – an initiative of women from all over Poland, organising the global One Billion Rising campaign since 2013 (<https://feminoteka.pl/>). Women's Grantmaking FemFund is also a public institution, however, does not take part individually in feminist campaign, programs and actions, but supports women-led groups in Poland while providing them with flexible small grants (<https://femfund.pl/>).

Before the first workshops with Feminoteka Foundation the course focused on the feminist theories of knowledge and location politics. As a

consequence, apart from Bell Hooks writing, theoretical classes elaborated on Adrienne Rich «Notes Toward a Politics of Location» (Rich, 1979-1985) and Linda Alcoff «The Problem of Speaking for Others» (Alcoff, 1991); which made it possible to address issues such as: feminist methodologies, feminist standpoint theories or the politics of positioning and representation. The introduction of these texts initiated a discussion on research ethics in feminist thought, the problem of the neutrality and objectivity of science, and the systemic conditions of the methods of knowledge production. Building on Hooks' theory the seminar also worked on the issues already mentioned, such as the empirical nature of feminist thought or the subjectivity and identity of (in) feminist thought. The purpose of the above-mentioned text was also to start a discussion on the history of feminist theory as a history of a collective and intersectional experience. The first classes were therefore concerned with what «feminism» is and who constitutes the feminist theory.

Then, the seminar was devoted to issues related to local and transnational feminisms. This part of the course covers texts by Polish feminist theorists, such as *Feminist movement in Poland and social policy issues*, with articles by Elżbieta Korolczuk, Julia Kubisa and Dorota Szelewa, (Korolczuk et al., 2017) or *Women in times of change, 1989–2009* with texts by, among others, Bożena Umińska-Keff, Agnieszka Graff and Sylwia Chutnik (Umińska-Keff et al., 2009). Through references to the books of Chandra Mohanty and Nancy Fraser, as well as reflecting in particular on the economic and social issues, the discussions were devoted to postcolonial studies in feminist thought, the problems of the colonial nature of the Anglo-American feminist tradition, and contemporary theoretical trends advocating the decentralization of feminism through transnational cooperation. Subsequently, the seminar focused on specific thematic issues and workshops with activists and feminist organizations.

Building on concepts of Nancy Fraser and Chandra Mohanty. Workshops with Feminoteka Foundation and FemFund

The first workshop with Feminoteka Foundation allowed to compare the previously discussed theory related to the sexual violence issue, including text of Monique Wittig (Wittig, 1981) and Rebecca Solnit (Solnit, 2014), with the practical activities of organizations and activists from all over Poland that deal with counteracting domestic violence and defending the Istanbul Convention. Apart from involvement of foundation in anti-violence campaigns, Feminoteka provides free legal, psychological, and therapeutic assistance to women who were sexually abused including leading the anti-violence telephone (<https://feminoteka.pl/>). Feminoteka's idea of supporting women who have both experienced sexual violence and struggled with worse economic situation is, therefore, related closely to Nancy Fraser's

concepts of contemporary feminist politics discussed earlier throughout the course, along the way of reading *Fortunes of Feminism: From State-Managed Capitalism to Neoliberal Crisis* (Fraser, 2013).

Fraser's thoughts on feminist social justice involving her account on politics of redistribution and politics of recognition, were important contexts for workshops and further theoretical classes related to the feminist economic and social issues. The crucial aspect for the whole seminar was the chapter «Feminist Politics in the Age of Recognition: A Two-Dimensional Approach to Gender Justice» in the framework of which Fraser puts forward the following questions:

How can feminists develop a coherent programmatic perspective that integrates redistribution and recognition? How can we develop a framework that integrates what remains cogent and unsurpassable in the socialist vision with what is defensible and compelling in the apparently «postsocialist» vision of multiculturalism? [...] Only by looking to integrative approaches that unite redistribution and recognition can we meet the requirements of justice for all (Fraser, 2013)

In the above mentioned passages Fraser answers the contemporary feminist struggles by calling for the integrative thinking that includes socialist-feminist issues focused on the issue of work (class); and on the issues of culture (social status) related to post-Marxist insights in feminist thought. Hence, in Fraser's perspective problems related to redistribution injustice include for example: unpaid «reproductive» work in the household, the gender-unfair distribution of paid work such as women in lower-paid jobs, the existence of a «glass ceiling» or «sticky floor» for women; while problems related to recognition injustice arise from a gender status subordination, such as, for example: sexual abuse; home violence; disrespectful and objectifying depictions in the media; exclusion or marginalisation in the public sphere; denial of full rights and equal protection of citizenship. Fraser's two-dimensional gender concept thus appears to us as a categorical axis connecting the two dimensions of social order: the dimension of distribution and the dimension of recognition; as well as remind us that it covers both the political-economic aspect and cultural-discursive one.

Nancy Fraser's concept of gender justice as equal participation, and therefore social interaction based on equal rights, was especially helpful during the workshops with Feminoteka Foundation. In providing support to women struggle with the redistribution injustice (such as lack of access to legal, psychological, and therapeutic assistance) and recognition injustice (such as gender status subordination arising from the experience of sexual violence), in fact, Feminoteka Foundation embodied in practice Fraser's concept of feminist social justice. Reading and discussing Fraser's book during theoretical classes and then compare *Fortunes of Feminism* with Feminoteka's workshops enable to follow the process of practising and realising Fraser's thoughts in acting by the

feminist public benefit organisation. It also reveals how Bell Hooks' concept seems to be similar to Fraser's thought regarding the contemporary role of feminism as a social movement and general discursive construct.

While rethinking the concept of recognition and redistribution the similar conclusions have been made after the workshop with FemFund. As a women's grantmaking, FemFund familiarised seminar group with the idea of supporting women's movement through feminist philanthropy (<https://femfund.pl/>). Originator, co-founder and board member of the FemFund spoke about their mini-grant competitions, which allow people from various parts of Poland to receive funds for the implementation of the project. Given that FemFund supports women, girls, non-binary people, trans and queer of various age, ethnicity, race, material status, ability, health, gender identity or psychosexual orientation; workshop's guests presented grassroots organisations, collectives and activists, that won competitions for grants during the last three years, such as, among others Nomada Association that has been supporting migrants and ethnic and religious minorities in Wrocław, most activities targeting the Roma community of Wrocław; Wandering Women that aware of the needs and problems of female migrants and refugees in Poland on basis of their own seven-year experience; Ruty Uwite – Lemko singers from ethnic minorities from the Beskid Niski mountainous region (<https://femfund.pl/>). Therefore, in providing economic support for women from rural communities and for migrant women who cultivating their origin cultures and religious, FemFund seems to realise not only the idea of Bell Hooks and Nancy Fraser, but also Chandra Mohanty's thought regarding obligations of feminist pedagogy.

Feminist political-intellectual coalition within and outside academia

An important text for both the whole seminar and particular workshop with FemFund was therefore Chandra Mohanty's text «*Under Western Eyes Revisited: Feminist Solidarity through Anticapitalist Struggles*» (Mohanty, 2003) which provides rethinking of her article «*Under Western Eyes: Feminist Scholarship and Colonial Discourses*» from 1986 (Mohanty, 1986). In the framework of «*Under Western Eyes Revisited*» incorporated to the book *Feminism without borders. Decolonizing Theory, Practicing Solidarity* issued by Duke University Press in 2003, Mohanty claims that both feminist pedagogy and feminist activism should pay attention to the varied experience of women in the world. In this context, she emphasises the importance of building an intellectual-activist community across national, racial and class borders. Similar to Bell Hooks and Nancy Fraser, Mohanty states as following:

My central commitment is to build connections between feminist scholarship and political organizing [...] (I) argue for a more intimate, closer alliance between women's movements, feminist pedagogy, cross-cultural feminist theorizing, and these ongoing anticapitalist movements (Mohanty, 2003)

In this sense, within the feminist transnational political-intellectual coalition, Mohanty would see anti-colonial possibility of feminist solidarity that would decolonize Eurocentric neoliberal feminism and, above all and broader: anti-feminism tendencies within pedagogical programs in academia around the world. Along with the concepts of Nancy Fraser, Mohanty's pedagogy tends towards social feminism that central obligation states the need to decolonize global capital as well as emphasizes global and local capitalist, patriarchal and racial hegemonies.

FemFund pursued these reflections on the one hand as part of a wider feminist transnational coalition (including Prospera, The International Network of Women's Funds), also cooperating with OAK Foundation, The Sigrid Rausing Trust, GFCF and Open Society Foundation; on the other hand, it distributes mini grants based on Mohanty politics regarding the issue of supporting women, non-binary, trans and queer people from various age, residence, ethnicity, race and gender groups (<https://femfund.pl/>). Moreover, on the level of the whole structure of the seminar «New feminist theories» referring to the postulate of Mohanty was manifested through creating the broadest possible syllabus of feminist workshops and theoretical reading, including not only Anglo-American theorists but also Polish, Czech and Middle Eastern scholars; representatives of different races, classes and different sexual identities. Following *Feminism without borders. Decolonizing Theory, Practicing Solidarity* the program of the course tried to embodied academic tools for practicing theoretical-activist pedagogy, which are, among others micro-macro perspective based on the grounded, local economic and social analysis combined with the global economic and political framework. As proposed by Mohanty who drawing on the legacy of feminist standpoint theorists, the syllabus tried to implement an analysis from the position of marginalized subjects and groups with the help of historical materialism oriented towards gender-racial experience. Using this sort of methodological tools, therefore, allows to practising feminist pedagogy in more awareness collaboration with feminist NGOs, non-governmental institutions and individual activists. Hence, the idea of the seminar «New feminist theories» was the desire to implement reflections of Mohanty that «[...] social movements are crucial sites for the construction of knowledge, communities, and identities, it is very important for feminists to direct themselves toward them» (Mohanty, 2003). Working with the text was not only crucial for discussion, thinking and writing about feminist theory, but also for using this theory in practice during organising workshops and observing how feminist organisations implement the feminist theory in action.

Conclusion

Summarising this short text, it would be worthwhile to point out once again Nancy Fraser's concept of reviving the socialist-feminist insight within feminist politics and theory that seems to be similar to Mohanty's obligations of feminist social pedagogy. Fraser's reflection on Marxist feminist political-intellectual coalition, therefore, postulates feminist activism through a combination of struggle with personal submission and critique of the capitalist system that, while promising liberation, actually imposes on us a new form of domination.

Apart from the feminism within the meaning of Chandra Mohanty and Nancy Fraser thoughts, through workshops with Feminoteka Foundation and FemFund among other, the program of the seminar «New feminist theory» also tried to embodied bell Hook's account of feminist theory as a shared empathy. As hooks emphasizes in *Teaching To Transgress. Education as the Practice of Freedom*:

«If we create feminist theory, feminist movements that address this pain, we will have no difficulty building a mass-based feminist resistance struggle» (Hooks, 1994)

Hence, Hook's concept of practising emotional feminism that creating the opportunity of formulation the theory resulting from the common, everyday experience, referring to Catharine MacKinnon article from 1991 «From Practice to Theory, or What is a White Woman Anyway?». Citing MacKinnon who reminds us that «we know things with our lives and we live that knowledge, beyond what any theory has yet theorized» (MacKinnon, 1991), Hooks claims that theory is the knowledge that we live by every day and even making a common, feminist political pedagogy is the challenge before us, there is the hope for social liberation and equality. However, in order to achieve this, as Hooks emphasises, there should not be «no gap between feminist theory and feminist practice» (Hooks, 1994).

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What Matters Most to Math Gender Gap? Evidence from PISA Data in Italy

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ABSTRACT: *Mathematical skills act as an important feature to explain some aspects of social inclusion and economic inequality. In this perspective the literature shows an increasing attention to the relationship between the mathematical skills and gender inequality in education and labor market experience. Based on these arguments, the paper analyses the main factors behind the differences in test scores on mathematics subjects between male and female 15 years old students, performing the Oaxaca-Blinder decomposition method (Blinder, 1973) on the data from the OECD PISA 2018 survey. In this context we support the hypothesis that the mathematical gender gap registered by Italian students is among the largest recorded in over 70 countries and that this gap is conditioned by non-cognitive elements. The study results confirm that the quality of the school environment, the socio-cultural context of reference and other non-cognitive elements that typically influence adolescent girls (the learning environment, self-efficacy in math learning, parental support, etc.) contribute to fueling the gender inequality in math test scores, even in the presence of the same characteristics observed with boys.*

KEYWORDS: *Mathematics, gender gap, Italy, students, PISA data*

Introduction

Analysing and understanding gender differences in mathematics learning has been a challenge for many researchers for decades (Maccoby and Jacklin 1974, Hyde et al., 1990, Spelke, 2005). It is noted how differences in mathematical performance act, together with other factors, as an important feature to explain some aspects of social inclusion and economic inequality that is generated in the transition from the world of education to the labor market. In this perspective, the literature shows a growing attention to the relationship between mathematical skills and gender inequality to the disadvantage of girls (i.e., Bobbitt-Zeher, 2007; Rosti, 2006).

The results of the international OECD PISA (Program for International Student Assessment) survey have shown since the first edition in 2000, that boys perform better than girls in mathematics but worse in reading, with some variability between countries. For this reason, it is particularly

interesting to analyse data from the OECD international PISA survey for Italy, as gender differences are particularly pronounced in this country (OECD, 2019a).

The main objective of the research is to analyse the multiple factors that condition and feed gender gaps in mathematics learning at school, which are wider in some countries including Italy, and to measure how much of the test score gap can be «predicted» by observable differences across students in determining the test score, or to what extent this gap is conditioned by non-directly observable.

Through a multidimensional analytical perspective, the article will discuss the non-cognitive factors that contribute to the gender gap in mathematical literacy of 15-year-old students in Italy.

1. Literature review

The gender gap in mathematical scores at school level has been observed in several countries around the world, although it differs substantially from one country to another (Marks, 2008; Meisenberg, 2016; Mullis et al., 2020).

While there is consensus on gender differences found in school test scores, studying the determinants of this inequality is an important and highly controversial issue of academic debate. It has been shown that girls in language proficiency tests typically excel higher than boys, whereas in mathematical and science tests boys often score best (Camarata and Woodcock 2006; Scheiber et al., 2015). Several explanations have been proposed to support the interpretation of this gap. Initially, a line of research examined the differences from a mainly biological perspective to support, for example, the innate differences in the spatial ability of the male gender, and to explain the greater mathematical ability always observed at school level in boys compared to girls, focused primarily on biological explanations (Kimura, 1999; Ganley et al., 2011). Nevertheless, more recent studies, underlining how the differences in some countries have reduced over time, or are in some cases very small if not non-existent, have advanced different hypotheses by emphasizing the role of social, cultural, and psychological factors (Gunderson, 2012).

Some studies, precisely based on the variability observed between countries, resort to explanations that involve the influence of social and cultural factors (Guiso, 2008; Li, 1999). Bleeker and Jacobs (2004) have shown through a longitudinal research how the subjective perception of mothers, with respect to the mathematical competence of their children, affects only the sense of security of girls and not boys, and their possibility of taking educational paths. STEM (Science, Technology, Engineering and Mathematics). Furthermore, many studies suggest how in education, the gender gap is still influenced by deep-rooted stereotypes in the teachers or implicit bias that act in such a way

unconscious influencing actions and evaluations on the students (Lavy, Sand, 2018; Avitzour et al., 2020; Copur-Gencturk et al., 2020)

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Others still focus on individual characteristics such as learning strategies, attitudes, motivation, anxiety, which seem to manifest in a different between the male and female (OECD, 2015).

A study of Colombia's PISA mathematical scores, which presents gender differences in mathematics like those observed in Italy, using an econometric methodology similar to that used in this study, shows that on average boys outperform girls in mathematics even when comparing students with similar individual, family and school characteristics. The observed characteristics favor girls on average (reducing the gap by almost 7 points) but the inexplicable component does not. As in the present study, the advantage in the observed characteristics is given because girls have individual factors that on average favor their scores over boys, while they are penalized by unobservable factors (Alvarado, 2017).

The study on the gender gap in mathematics is very interesting for the Italian case as the differences are particularly large (Zhou, 2017; Ellison, 2018; Di Castro, 2021).

2. Data

This study uses OECD PISA 2018 microdata that measure 15-year-old students' proficiency in three key areas of competence (reading literacy, mathematical literacy and science literacy). As in PISA 2015, the computer is the primary mode of delivery for all domains. The main domain is rotated at each PISA cycle every three years. In 2018, reading proficiency is the main domain and mathematical literacy is assessed as a minor domain, but its framework continues the description and illustration of the PISA mathematics assessment as established in the 2012 framework, providing the opportunity to compare student

performance over time, when math was re-examined and updated for use as a primary domain. However, the data analysed are currently the most up-to-date available for our analyses.

Furthermore, in addition to data on students' proficiency, the survey contains large volumes of information on family socio-economic background, students' attitudes, beliefs, their home possessions, their school and learning experiences, and in-depth questions about computer familiarity, and future expectations.

In Italy, 11,785 students took the test (48% females and 52% males), representing a population of approximately 521,000 15-year-old students throughout the country.

3. Methodology

The paper analyses the main factors behind the differences in test scores on science/mathematics subjects between male and female 15 years old students performing the Oaxaca-Blinder decomposition method (Blinder, 1973), originally used in labor economics to decompose earnings gaps and to estimate the level of discrimination.

This econometric technique allows to decompose the gender inequalities recorded on average in the mathematical performances of students into two distinct components. The first component is attributable to the differences in the average characteristics of males and females, with the same rate of return in the test scores associated with each of these observed characteristics («explained»); the second component identifies, instead, the part of the gender inequality that can be attributed to the differentials in the rates of return, with the same characteristics observable between male and female students («unexplained»). This second component can therefore be considered as an empirical approximation of the discrimination suffered by female students in the evaluation in mathematics test scores compared to male colleagues.

In this perspective it is therefore possible to verify whether and to what extent the quality of the school environment, the socio-cultural context of reference and other elements of a psycho-attitudinal nature that typically influence girls in the initial phase of the upper secondary school cycle (e.g. parental support, environmental context, mathematical self-efficacy, etc.) contribute specifically to the persistence of gender inequalities in math test scores – even in the presence of the same characteristics observed in boys. Table 1 lists the variables included in our model.

TAB. 1. Included Variables

<i>HomewMother</i> – How often do your mother work with you in your schoolwork?	Several times a week (1) Never or almost never (0) a few time a year (0) about once a month (0) several time a month (0)
<i>HomewFather</i> – How often do your father work with you in your schoolwork?	Several times a week (1) Never or almost never (0) a few time a year (0) about once a month (0) several time a month (0)
<i>Emosups</i> – The index of parents emotional support	
<i>ChildSupp</i> – I support my child when he/she is facing difficulties at school	– Strongly agree(1) Agree(0) disagree(0) Strongly disagree(0)
<i>EncChild</i> – I encourage my child to be confident-	Strongly agree (1) Agree (0) disagree (0) Strongly disagree (0)
<i>DiscChild</i> –Discussed my child's progress with a teacher on my own initiative. Yes(1) no(0) Not supported by the school(0)	
<i>GradesImport</i> – Importance for decisions about future occupation: my school grades	–Very important (1) important (1) not important (0) somewhat important (0)
<i>SubjectImport</i> – Importance decisions about future occupation : the school subject I am good at-	Very important (1) important (1) not important (0) somewhat important(0)
<i>Talentimport</i> –Importance decisions about future occupation my special talent (1) –	Very important (1) important (1) not important (0) somewhat important (0)
<i>Exp_par</i> – Importance for decision about future occupation: my parents o guardians expectations about my occupation–	Very important (1) important (1) not important (0) somewhat important(0)
<i>Resilience</i> – Index of self efficacy	
<i>Gfofail</i> – Index of fear of failure	
<i>Belong</i> – Index of sense of belonging	
<i>Compete</i> – Index of Competitiveness	
<i>Percomp</i> – Index of Perception of competitiveness at school	
<i>Percoop</i> – perception of cooperation at school	
<i>Clear_Ideas</i> – what do you think you will be doing 5 years from now – I will be studying because the occupation i want requires a study degree (1) 0 otherwise	
<i>Mastgoal</i> – Index of learning goals	
<i>Workmast</i> – Index of motivation to master tasks	
<i>Disclima</i> – Index of disciplinary climate	
<i>Internet</i> – Available for you to use at home: Internet connection Yes and I use it (1) – yes but I don't use it (0) No (0)	
<i>Istitut1</i> – general	
<i>Istitut2</i> – pre-vocational	
<i>Istitut3</i> – vocational	
<i>Age</i> – 15 years old	
<i>Escs</i> – Pisa Index of economic, social and cultural status	
<i>Mean_escs</i> – Mean for school of Pisa Index of economic, social and cultural status	
<i>Misced</i> – Mother's education	
<i>Fisced</i> – Father's education	
<i>Cultposs</i> – Index Cultural Possession of the family	
<i>Mmins</i> – Learning time (minutes per week) – <Mathematics>	

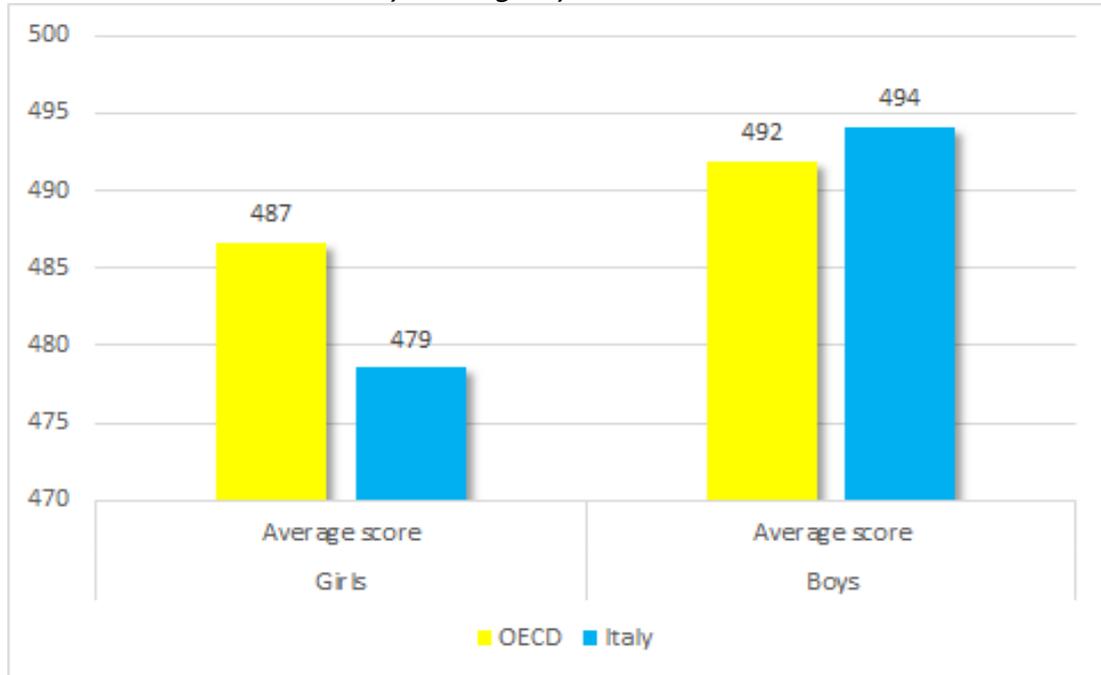
4. Results

3.1. Descriptive statistics

Fig. 1 shows the average mathematical gender gap in Italy and in the OECD for 2018. As can be seen, if the average score of male students is in line with the average of the countries participating in the Survey (2

points higher), girls they score significantly lower not only compared to their male colleagues, but also on average compared to their colleagues from other countries (479 points for Italian girls; 487 on average for girls from other countries).

FIG. 1. *Mathematical literacy Average by Student Gender*



Source: Authors' elaborations on OECD PISA data (2018)

3.2. Decomposition Results

Estimates indicate that the gender gap in math test averages around 16 points. This difference is explained mostly by the disadvantage «suffered» by the girls due to unexplainable factors, which contributes to increasing the differential by more than 24 points, while the differences in terms of observed characteristics – with the same returns – would contribute to a positive performance of the female students (-7.89 points). Findings reveal that the variables included in the explanation cushion the differential.

TAB. 2. *Oaxaca Blinder Decomposition, mathematical test scores*

	OB_math b/se
Overall	
group_1	518.4291*** (3.2719)
group_2	502.1949*** (3.7101)
difference	16.2341*** (3.4961)
explained	-7.8970** (3.2122)
unexplained	24.1312*** (3.6869)

Source: Authors' elaborations on OECD PISA data (2018)

At this point, the Oaxaca technique allows us to analyse the role of the single observable variables that contribute to reducing gender differences (-7 points) or in some cases to increasing the differential. Similarly, it is possible to analyse the single variables that contribute to increasing the differential, or the discrimination effect.

Decomposition results: Explained component

Gender gap associated with observable characteristics contribute to explain female positive performance (-7 points).

In the explained part, the relevant role of parents emerges, i.e., the expectations and emotional support of parents, as well as the parental presence (DiscChild) measured in terms of meetings to talk with teachers even when not required.

On an individual level, the importance of goal orientation for girls emerges, which affects the reduction of the gap where girls demonstrate motivation to study dictated by a clear professional goal (in practice, at 15 they already have «clear ideas» on the work they will want to do and therefore on the qualification to be achieved), and a stronger generic motivation (workmast).

TAB. 3. *Oaxaca Blinder Decomposition, Explained component, mathematical test scores*

Emosups	-0.7683** (0.3092)
DiscChild	-0.4990** (0.2046)
Exp_par	-1.2342*** (0.4543)
compete	1.8920*** (0.5564)
Clear Ideas	-1.6508*** (0.5050)
mastgoal	1.1366** (0.4693)
workmast	-1.0305** (0.4617)
disclima	-1.0467*** (0.3600)
mean_escs	-4.4687*** (1.6370)
cultposs	-0.5105* (0.2585)

mmins	2.2168*** (0.6414)
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Source: Authors' elaborations on OECD PISA data (2018)

On average, the socio-economic level of the family does not have a significant effect on the variables, while the qualitative or socio-economic level of the school environment contributes to significantly reducing the mathematical gender gap and is not associated with discrimination phenomena. At the family level, however, we observe the significant effect of cultural capital in terms of possession of classical culture at home (e.g., books of classical literature), which curiously acts in reducing the mathematical differential (also positive in terms of the discrimination effect).

Among the observed variables that instead favor boys by increasing the math gender gap we find the student's competitiveness index, which if positive seems to increase the differential.

Decomposition results: unexplained component

In the unexplained part of the decomposition, it is observed how an approach to self-assessment based on internal or external factors has different effects on male or female students.

TAB. 4. *Oaxaca Blinder Decomposition, Unexplained component, mathematical test scores*

GradesImport	-13.7581** (5.8273)
SubjectImport	12.8401* (7.0775)
miscd	-18.4460* (9.9821)
cultposs	-2.5659* (1.5322)
cons	-42.6562 (166.9308)
N	11785

Source: Authors' elaborations on OECD PISA data (2018)

Rely on grades to guide own goals and educational paths (external evaluation, based on teacher grades) is correlated with a narrowing of the gender gap in mathematics, while learning goals based on self-assessment («I think I'm good in...» denoting higher self-esteem/self-efficacy) tend to increase gender inequality in math and this happens solely due to inexplicable factors, widening discrimination men/women.

The results seem to highlight that, in relation to mathematical performance, male students rely more on positive self-assessments

(subjectimport), while female students seem to need external assessments (gradesimport) to make decisions on their own paths.

These complementarities between boys and girls suggest a typical male-female pattern linked to greater underlying insecurity for women, which we presume may be linked to a set of negative stereotypes that influence the relationship of women with mathematics.

The mother's degree (miscd), unlike that the father (fiscd), plays a crucial role for girls; this result confirms the importance of the maternal reference model for female identification: the more educated the mother is, the more the gap in the discrimination part becomes shorter.

This result, confirmed in the literature by other studies, constitutes an indirect confirmation of the usefulness of female reference models for young girls, in those disciplines where they seem to be most insecure (for example, Bleeker, Jacobs, 2004)

Bleeker and Jacobs 2004 through a longitudinal study show that the probability of choosing scientific-mathematical paths at the age of 24-25 for girls was significantly affected by maternal evaluation in pre-adolescence, while no relationship was observed between maternal evaluation and behaviour of male children at the same age. The girls' mathematical and scientific self-efficacy was associated in the long term with the subjective expectations of the mothers noted previously.

Conclusion

In the previous pages, the analyses conducted on the OECD PISA 2018 data have highlighted the existence of a significant difference between the levels of mathematical competence of 15-year-old students in Italy, a country in which this gap is particularly pronounced, if compared to the average of the 79 countries that participated in the Survey.

Through econometric analysis, the non-cognitive dimensions that can affect the learning of mathematics have been analysed, it has been shown how some emotional dimensions such as parental support perceived by students, or environmental factors such as the socio-economic level of the school, favor the performance of the girls.

The explained part, in effect, seems to be more positively influenced for girls by socio-cultural variables which act on an in a learning environment: possession of classical culture tools, but also the socio-cultural school level. We suppose that greater socio-cultural richness favors the strengthening of skills in girls through the peer socialization. This is not observed for the single socio-cultural index of the family fact that emphasizes the importance of the learning environment, as also highlighted by the decrease in the gap in the presence of a more serene class climate.

Parental involvement in students' education, on the other hand, acts in terms of emotional support (Jeynes, 2007). A parent present both emotionally and present through contact with teachers and the school

seems to decrease the gender gap observed. In fact, suppose that in a disciplinary context in which female students are more disadvantaged than their male colleagues, the parental emotional support expressed also in terms of presence acts as a reinforcement for the girls (and not for the boys), confirming the hypothesis of greater female insecurity in mathematics.

However, through the decompositions used in these analyses, it appears that a large part of the difference in mathematical performance between girls and boys lies in an unexplained component.

Our decomposition shows that the factors that act in terms of «discrimination» between men and women constitute the largest part of the gap. Such unexplained part appears to be characterized more by variables that represent emotional or non-cognitive elements. It is evident that the use of an external evaluation such as school grades received by teachers represents a great reason for reinforcement for girls, and a factor that can decrease the differential of the unexplained part by more than 13 points.

On the contrary, the use of the evaluation of one's skills based on an internal self-perception, even without resorting to external evaluations (school grades), denotes greater mathematical self-efficacy in male and better mathematical results.

Among the factors most involved in the decrease in «discrimination» we point out the level of maternal education which affects, as also found in other studies the learning outcomes of girls and not boys, confirming the importance of the role of female models for girls. In practice, it appears that having a university-educated mother can foster the transmission of gender role attitudes from mothers to daughters (Chivite Monleón, 2020). This result was not observed in boys and considering the paternal level of education, and it leads us to underline the importance of the female reference model in those areas more traditionally perceived as male.

In conclusion, we believe that all the factors indicated so far play a decisive role in influencing the mathematical educational results of female students, and that the factors underlying this gap play an important role in determining the subsequent educational and career paths chosen by women.

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Femicide in Art. An Educational Proposal

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ABSTRACT: *While the importance of art in pedagogical work is now common heritage, the idea of using representations of femicide in art is totally new. The article proposes a selection of works used for educational purposes, emphasising their immersive artistic expressive power. The works examined range from the Tiziano's time to the denunciation of contemporary women artists. The political and media attention on femicide has not yet had a strong influence in the school and in the educational environment in general. The introduction of the theme would imply an investigation of the origins of the phenomenon in the context of symbolic violence and in a culture of long term domination. The understanding of violence and horror and its reduction to a purely emotional teaching raises many critical points. Avoiding this reductive view requires a careful reflection on gender education, its criticalities and the socially constructed imagery of the feminine and the masculine.*

KEYWORDS: *Art, Femicide, Education, Visual Culture.*

Introduction

If there is unanimous recognition of art's capacity to embrace reality, space and time, and to succeed in giving the great frescoes of society, there is much less consensus on its educational vocation, which is under the magnifying glass of scholars from different backgrounds.

Even more controversial, for obvious reasons, is the possibility that art can point the way or contain a moral message, especially when it is an instrument of education or when it is instrumentally and politically motivated.

Placed today on the border with several disciplines, the work of art crosses over into studies of visual culture, based sociologically on the idea of the visual construction of reality and of iconology (which in turn studies the link between language and representation and media studies, thus connecting social and artistic aspects) (Mitchell, 2018, 21). Visual culture is a veritable linguistics of the visual field, as Gombrich argued: the image implies in the observer the impression and perception of observing the object itself (Gombrich, 1965).

For some time now, the social sciences have been incorporating a sensitivity to images, which has been joined by a sensitivity to language.

The image, whether artistic or from the media, thus becomes a central object of investigation and not simply a superstructure of discourse and

text. Above all, it becomes an indicator and signpost of an increasingly complex and global reality. Viewed with suspicion and accused of not exercising a precise or high-quality selection of the materials to be adopted, and in spite of its being now academically recognised, visual culture has struggled to establish itself because it is seen as not very productive.

We respond to images and especially to pictorial representations of art with interpretation, with a semiotic and symbolic analysis and we question the communicative intent, but much more rarely do we grasp its educational value. Along the lines of studies of visual culture, the question could be reversed (Mitchell, 2017, 107): what do images want from us, what do they ask of us? And from the perspective of a pedagogy of images the question becomes: how do they speak, what do icons say and how can the subjectivity of the object communicate an educational message?

1. Image and education

The role of images is vastly more important and powerful than in the past: the question is then what to do with this additional power. The aura of the artistic images in their uniqueness subjectifies objects that are described if not experienced as having personality, voice and will.

The so-called society of the spectacle has largely made evident the centrality of visual experiences for both the elite and the popular (Debord, 1994)

The critical vision of the society of images, or spectacle, is both naïve and inconsistent, and is full of rhetoric about the power of images, which certainly exists and has its weight, but which should be articulated and understood more analytically.

We can in fact read the centrality of images in modern culture as a connection to traditional non-literate societies (Ong, 2002). Art, therefore, is the tool that best meets the needs of transmitting the memory of tragic events in history, but also conveys a deeper understanding that encompasses the cognitive and emotional aspects.

With the distance from historical events, for certain themes, as for example it happened for a long time for femicide, the educational value of testimonies through art takes on a particular significance.

Perception for McLuhan was never just a matter of the senses, it was an immersive understanding in hot and cold media. This applies to any iconic message: every figurative medium has its own temperature which is transmitted to the eye, to the mediator and to the learner in the case of education.

Artistic and media discourse merge happily in the educational process.

An interdisciplinary approach is part of the fundamentals of a critical iconology. The images, and we are also talking about those incorporated in educational processes, do not belong only to our age.

When we speak, therefore, of the iconic turn, we can say that it is also an urgent issue in the field of contemporary education, not only in the field of mass culture and political communication. Knowledge and learning are certainly mediated by language and emotions, but so is the whole range of representational practices, among which representation of images emerges. Representations are therefore not simply a didactic tool but a true immersive experience.

This subjectification of images is not only characteristic of works of art, but is transferred to all iconic representations. Theories of images, starting therefore from the history of art, have involved so much knowledge that they have given rise to a completely new interpretation, known as «critical iconology».

It is therefore necessary to distinguish within the proposed representations the picture that will be the proposed images in the history of art linked to the materiality of the painting or the icon in general, and the image in the strict sense of the word, which remains as a memory, as a lived experience, as a memory.

The recurring motif, that is femicide and its images proposed in the educational pathway, penetrates in the form of an abstract idea and is brought to consciousness through perception. The images therefore trigger the mechanism of understanding but above all of recognition, the certainty that it is a question of femicide.

The works of art analysed here belong to different eras; in the contemporary ones, the intentional elements of femicide are evident, due to the contemporary awareness absent in the paintings and representations of the past.

The resulting image, the iconic sign (Peirce, 2003) is therefore the perception of a relationship of similarity in a diachronic sense. In other words, the forms change but the substance of femicide remains unchanged. The word-image dyad that accompanies the educational pathway requires not only a formal and content analysis but also an analysis of the historical context.

The iconic turn, (Walker, Chaplin, 1997) therefore incorporates language and semiotics and posits image as the point of intersection between discourse, visibility and the institutional background within which the action takes place.

Although visual culture appears to be taken for granted in mass society, its role and power in education can still be explored. Images as both an aesthetic and educational experience can play an important role in gender education and in the deep understanding of gender in a both diachronic and synchronic understanding of the theme of femicide. It is therefore an experience that encompasses an ancient and a modern concept, a way of reading images that is part of the traditional canon of art history but which is also distorted by a visual optic that unites the thematic element of femicide, understood as a long-term «cultural tradition», with the theme of the work.

The need for a didactic approach that frames the relationship between gender and violence, overturning the concept of femicide, should be placed within this ancient history.

The educational atmosphere has changed, a more conscious climate is the ground within which good practices are slowly making their way, but above all there is a different sensitivity, an informal gender education (Brambilla, 2016) that has its weight and impact.

However, the climate and atmospheres only partially affect institutional structures and organisations. If the media clamour puts us in contact with an ancestral gender violence, the everyday routines of work, of family and education are not exempt from cumulative micro-discrimination that influences and affects life choices and opportunities that are not available. Violence against women is only one of the aspects that need to be examined in order to understand its scope and deep roots. At the risks of responding in an emergency way to the impact of media and atmospheric impact, educational proposals with a broader horizon excavate and unhinge the asymmetry of the genres. The role of the mediator is absolutely fundamental in unhooking unvarying paradigms that are hard to die and in avoiding positions of crystallisation of the position of asymmetry with respect to the male.

The work must be built on the two levels of mediation, that of empowerment and that of emptying stereotypes. The certainty of the modifiability of the human brain and mind is the basis on which to build symmetry between the between the masculine and the feminine. There are no fixed boundaries, no one is necessarily limited by a social routines, even if they are long-standing.

2. Emotions, art and educational experience

The educational process is strongly shaped by the communicative tool that is used. The use of artworks depicting femicide in the educational process produces effects that do not only concern learning but a set of changes detectable due to the intersection of multiple factors such as aesthetic enjoyment and emotional impact with violence.

The media attention on femicide, the number of victims estimated at one every three days, and the political and legal initiatives have not yet had a strong influence in schools and in the educational field in general.

The introduction of the topic would imply a search for its origins in the context of the symbolic violence and in a long-term culture of domination (Bourdieu, 2001). This type of approach is not sufficient to fully understand gender violence in modernity, which needs to enter a dialogue with the changes in identities and roles, and not only with the the fact of patriarchy (Corradi, 2009).

The spectacularization, even within school education, of central themes of the twentieth century tells us how difficult it is to understand violence and horror and to avoid its reduction to a purely emotional

didactic. Avoiding this reduction implies careful reflection on education, its criticalities and the socially constructed imagery of the feminine and masculine (Durst, 2006). The wealth of other educational experiences attentive to historical memory confirms the relevance of art in all its dimensions.

Art has the capacity to express (Dewey, 1980) and bring to light what is implicit in every vital experience but which is difficult to access without it. Artistic expression is therefore, from this perspective, the test of the human capacity to restore the unity of meaning and action. As I have highlighted when discussing the importance of the iconic turn, the two fields of aesthetics and pedagogy need to come together need to meet through a common language. Aesthetic education just over a century ago was devoted to cultivating beauty and sensitivity, and to the teaching of the fine arts: only in the last few decades has it arrived at the general idea of education through art, which today is largely hybridised with new technologies. Bringing together aesthetics and pedagogy is an operation that does not seem very imaginative, nowadays, thanks to that strand of aesthetics that combines happily with the phenomenological approach and with attention to the everyday (Griffero, 2017).

This phenomenological approach lends itself well to education with and through images, thus not so much with a theory of art but with a theory of sensitive and bodily knowledge, of pathic and empathic experience. Aesthetics has traditionally made a great contribution to pedagogy, and educational experiences through art have highlighted the relevance of art in the formation of the individual. Education through art has often been the baggage of pedagogical experiences open to the future, and ready to blaze new trails. In education through art, it is possible to condense the shortcomings of traditional didactics, especially if we are relating to subjects that are difficult to handle, with tragic human vicissitudes and with tragic and universal human implications, or when we want to communicate a world of ancestral violence that is difficult to explain. It is therefore no longer education in beauty, but education through iconic representations.

A mutual rapprochement of aesthetics and pedagogical experience is the main road that helps to overcome the educational difficulties in the transmission of themes such as femicide. The reflections at the basis of an exemplary pedagogy that succeeds in social awareness and education are supported by many practical experiences, but are rarely theorised. These are issues worthy of the utmost philosophical and pedagogical attention. Various aesthetic theories can interact with gender education. The Bergsonian thesis (Bergson, 1958) about aesthetically understanding the world helps to orient our proposal in the direction of a refinement of perception on the theme of violence through contact with art.

A second point is that of the aesthetic experience that allows a cognitive and sensory expansion, and therefore greater empathy with our theme. The third point of view is that which instead considers the therapeutic function of art.

In this sense, aesthetic theories that attribute to art the role of contact with the world are the ones most in keeping with a pedagogy of this kind. Art shows us things in nature and in ourselves that do not explicitly affect our senses and our consciousness. By observing art we observe ourselves. Art is a mediator, as is education.

The media bombardment on the theme of femicide rarely stops at a reflection on the painful experience of the victim. Images are used extensively, but not thought about and above all experienced. Digital images are widely used in education, so much so that we have come to speak of a pedagogy of the concrete.

The audiovisuals replace direct contact, especially when contact is not possible. But the facts of the news cannot be an educational experience unless they are adequately mediated. The images proposed in themselves do not necessarily have any historical dimension. They are synchronic and function by virtue of their symbolic function. Images have a unique strength in stimulating emotional responses.

For Dewey, aesthetic experience is a qualitative search for reality that is accomplished through a unitary reworking of the data of experience and all its components: mind, affect, emotion, perception and impulse. For Dewey, man is conceived as a being who makes use of art. The artistic product, whatever it may be, is different from a work of art which comes from the cooperation of the spectator with the spectator's cooperation with this product and its purpose is to provoke an experience. It is no coincidence that Ana Manieta's hour-long performance of her standing still and representing rape had greatly impressed the spectators who had become active participants. The cooperation of the spectator thus becomes the premise of the work of art. It is given and received.

Through art (Dewey, 1980), man experiences a deeper reality and projects himself outside himself. Every artistic form communicates, that is to say, it makes people participate and share. This immediate character of the emotional effect can be found in body art, which has dealt extensively with the bodies of women.

On the basis of these considerations, nothing more than artistic expression can reveal the mechanisms of violence against women's bodies and help us to rediscover in different eras the red thread that has kept it alive for centuries.

3. Images for thinking

The iconic representation of women through art in different historical periods and at different latitudes tells us a lot about the way society perceives, crystallises, idealises or demonises women. A symbol of fertility in ancient iconography, she almost disappeared in the Roman world, became a symbol of the Madonna in the Middle Ages with sacred images and returned to humanisation in the Renaissance.

The theme of femicide, so present in the form of denunciation and awareness in contemporary art, was not unfamiliar even in the time of Tiziano and Botticelli. In the frescoes of the Scuola del Santo in Padua (1511), Titian depicts in one scene a jealous husband who stabs his wife. It is a dramatic scene of femicide, the husband is holding the woman by the hair, has a long, sharp dagger in his hand and blood is seen gushing from the chest of the terrified woman. In the same scene, but in the background, the husband thanks St. Anthony for resurrecting his wife because she had been unjustly accused of adultery.

The *Miracle of the Jealous Husband*¹ is based on a Tuscan story about the rebirth of a woman after a violent death because her repentant husband asks for mercy. Our gaze goes to the centre of the violent scene. The husband is determined and sure, the woman struggles, lifts her arm in a futile defence. The scene leaves no doubt as to the force of the action. Proposing this image far back in time allows us to follow a path that starts from afar, deeply rooted in time. The woman is guilty and must be punished by death. She is saved because she is not an adulteress. In another work of the period, a femicide takes place; in the tempera painting on panel, Botticelli has staged one of the *Novelle* from Boccaccio's *Decameron*, *Nastagio degli Onesti*. The protagonist is in love with Paolo Traversari's daughter but is not reciprocated. The young woman is persuaded her to give in to his demands after seeing the tragic end of another woman who had not responded to the love of a suitor. There are four paintings, three of which are in the Prado Museum in Madrid. In the first painting, the woman is depicted naked in the woods as she runs away and is bitten by dogs and struck by the man who was chasing her on horseback². In the second episode³ the femicide takes place, the woman is struck down naked and the man finishes her off with his sword. *Nastagio* watches the scene in horror, but believes that this image may be useful to him in order to win over the young girl who had rejected him with terror. The paintings speak clearly, here too the woman is guilty. In Tiziano for adultery, here because she dared not fulfil the man's wish. In the other two paintings, *Nastagio*'s beloved, terrified by the horror of the scene, convinces herself to marry him. Both paintings are complex and can be interpreted in many ways, but they undoubtedly reflect a negative judgement of women according to the moral values of the time. In Tiziano's painting the adulteress must be killed, St Anthony saves her but only because she is honest. The woman is therefore an angel or a demon, pure or impure, sinner or innocent. In contemporary art, the argument is reversed. The artists mentioned here all denounce femicide. It is a social fact and art, in a different way from the past, is a

¹ https://www.wga.hu/frames-e.html?/html/t/tiziano/01_1510s/11padua3.html

² <https://www.alamy.it/la-storia-di-nastagio-degli-onesti-i-1483-sandro-botticelli-il-museo-del-prado-madrid-spagna-image61302165.html>

³ <https://www.greatbigcanvas.com/view/story-of-nastagio-degli-onesti-from-boccaccios-decamerone-1483,2257914/>

witness to it. Women are protagonists as artists and as an active presence of denunciation. The pierced body in Tiziano's and Botticelli's representations becomes a body that acts in the artists' performances. The number of women artists working on this theme has grown over the years, and here I propose four from different backgrounds and with different style. The first, Ana Mendieta, an artist of great expressive power, is a Cuban who has lived in the United States. She can be fully included in the strand of body art, especially for her performances denouncing sexual violence. Following the rape and femicide of Sara Ann Otten, a student at the University of Iowa (where Ana Mendieta was studying with the German artist Hans Breder) Hans Breder decided to stage a rape in the room of his house. She was found by students and professors bent over a table and stripped from the waist down. Blood dripped down her thighs and calves. And a pool of blood was visible on the floor. The scene was lit in such a way as to bring out the drama of the scene. Her head and arms, which are tied to the table, are not visible in the darkness; broken crockery and bloody clothes disappear into the shadows on the floor to his right.

A very harsh, powerful and denunciatory performance with a strong symbolic and narrative impact with her violated body staged. *Untitled (Rape performance)* of 1973. *Untitled (Rape performance, 1973)*.⁴ It stood still for about an hour and, as the artist recalls, was shocking for the audience. No theory would later say but a personal response to a situation. In two other performances she was photographed lying semi-nude and spattered with blood in various outdoors on the perimeters of the university campus (*Rape Performance Viso*). In the same year she created tableaux using blood. In a work entitled *Clinton Piece, Dead on Street*, the artist lay motionless in a pool of blood as if he were an accident or a crime victim, while a fellow student stood over her taking pictures with a flash camera as if he were recording the incident for the press or the police. Finally, in an abandoned farmhouse he created a scene of chaos with torn mattresses and other household and other domestic debris on which he poured red paint, to imply a brutal fight between a victim and his attacker – *Untitled (Bloody Mattresses)*. The aim of these works was to stimulate a response from the public. With a wall installation of ceramic and polychrome enamels entitled *Il male infitto alle donne* (2008), the artist Giosetta Fioroni. The evil inflicted on women (2008) denounces through 66 panels, like tombstones, the deaths of as many women of 66 panels, like tombstones, depicting the deaths of as many women who died of femicide in 2006. The work is very large and in the centre of it image of a broken woman, almost as if to represent a broken body that can never be returned to its original state. A woman who is about to collapse because she no longer has anything to hold her up. This installation represents violence with less emotional impact, but no less depth. In 2009 in Ciudad de Juarez, the Mexican artist Elisa

⁴ <https://thestereoscopiceye.files.wordpress.com/2013/10/anamedietarape.jpg>

Chauvet placed her work *Zapatos Rojos* in a public space. *Zapatos Rojos*, an invasion of red shoes charged with meaning and emotional value. They are red like blood, but also like a misunderstood love. Her work has become synonymous with denunciation, it is a recognisable symbol that is reused in different variations. In 2017 Paola Volpato created the installation *Femicidio – donne uccise dal 2015 a 2017* exhibited in the Sala del Cenacolo of the Complesso di Vicolo Valdina – Camera dei Deputati in Rome, on the occasion of the International Day against Violence on 25 November 2017. «Femminicide» is a kind of giant black cube of memory, a large box covered with portraits: the faces of women killed between 2015 and 2017 portrayed in India ink. They are 200 portraits that offer the visitor a glimpse of an absence and the denunciation of a crime that repeats itself. It is the art that makes each of these objects and performances full of a meaning that would otherwise be incomprehensible and inexpressive. The profound reason for each of these works is the creation of a new experience. Each work contains a language that lives in individual and educational experiences. The link between aesthetic experience and educational experience can be extended and intensified through structured pedagogical action.

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Cognitive and Non-Cognitive Factors Influencing the Numeracy Gender Gap in Higher Education

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ABSTRACT: *Numeracy is a crucial skill in successfully going through modern life and society. Large-scale competence assessment tests have underlined a steady underachievement of females in the mathematical domain. This «gender gap», which arises within primary and secondary education, persists in higher education, with remarkable socio-economic repercussions, among which the significant underrepresentation of women in STEM (Science, Technology, Engineering and Mathematics) academic and professional careers. Much research effort has been devoted to lower-level cognitive causes of the gender disparity in numeracy achievements, attesting the cognitive nature of the scores obtained from competence assessment test. However, other factors beyond cognition also might account for the gap, among them personality, as captured by the Big Five traits. To the extent that not only cognitive but also non-cognitive skills might be related with the gender gap, personality could be a good candidate to attempt explaining the differences in numeracy assessment scores between males and females. The present contribution provides preliminary evidence on the role of both cognitive and non-cognitive factors in affecting numeracy outcomes in higher education. Furthermore, personality is proposed to account for the females' underachievement in mathematics.*

KEYWORDS: *mathematics, personality, gender, higher education, STEM*

Introduction

The underrepresentation of women in STEM (Scientific, Technology, Engineering and Mathematics) is a well-recognised fact with relevant socio-economic consequences. STEM competences are the most required and the best paid in the labour market. This gender disparity in the STEM field results in other forms of social inequality, such as the wage gender gap (Morana, Sagramora, 2021).

The greatest bottleneck for women in science is the choice of the university major (Ceci et al., 2014). For example, in Italy, although females represent over 50% of the student population at all educational levels, only 24% of the enrolled female college students choose a STEM degree, against 42% of male students (Morana, Sagramora, 2021). Nevertheless,

once they enrol in a scientific university major, females are more successful in completing the degree compared to males, as suggested by the higher ratio of females graduating relatively to the number of females enrolled. In the «Engineering and Technology», for instance, while for every 100 enrolled males there are 37 enrolled females, the proportion of females graduating rises to 43 for every 100 males, indicating that females enrolled are more likely to complete their study path than males. Despite this relatively favourable outcome, as the academic career progresses, women's rate reduces: of the 43% of PhD students 35% become associate professors and only 21% full professors (Morana, Sagradora, 2021).

Why are women underrepresented in STEM fields and, as a consequence, in STEM careers? The rate of women with STEM attitudes and interests is larger than the rate of women that actually choose a hard science major (Stoet, Geary, 2018). Thus, the simplistic view that women have no feel for math does not hold true. As to attitudes, female students have been proved to score higher in literacy assessments than male students (INVALSI, 2019; OECD, 2019), and this might be responsible for them not enrolling in STEM studies. However, the higher rate of female students in health science programs proves women's success in scientific subjects. Indeed, these programs require a strong scientific background.

STEM degrees are highly math-intensive. There is a general view, supported by evidence from international studies, that female students are less strong in math compared to male students. This gender gap in numeracy skills has been concerning policy makers at national and international levels for its broader implications. Understanding what is at the basis of this gap could be the key to identify what prevents young female students from engaging in STEM careers.

1. The numeracy gender gap

Large scale assessment tests have been designed to evaluate the cognitive competences that students are encouraged to acquire at school. The aim of these tools is not only to assess current educational and social policies within nations, but also to prompt the development of new strategies, more targeted to overcome educational weaknesses and meet new labour market challenges.

One of the main skills investigated is numeracy. Numeracy is the ability to employ mathematics in a variety of contexts, to use mathematical concepts to understand phenomena and to formulate decisions (OECD, 2018), and it is acknowledged as a key competence in the modern world, since it predicts earnings, employment and quality of life. Poor numeracy negatively impacts life outcomes, especially among women, predicting higher chances to be engaged in unskilled jobs or home care and to experience psycho-social distress (Parsons, Binner, 2005).

Critically, females' achievement in numeracy is frequently reported to be lower than that of males, and this phenomenon is ubiquitous in the world. For example, 2019 Trends in International Mathematics and Science Study (TIMSS), the international assessment of mathematics and scientific learning in 4th and 8th grades, showed that females obtained lower scores than males in math tests in around half of the participating countries (Mullis et al., 2020). This trend persists among 15-year-old students, as reported by the latest survey of the Program for International Student Assessment (PISA, OECD, 2019). In Italy, girls' underachievement in math was found to endure up to the 13th grade, regardless of the school track (INVALSI, 2019). Indeed, in Italy, secondary schools are sorted in general high school, either humanities-oriented or scientific-oriented, and technical or job-preparing high schools.

Furthermore, in most countries the gender gap spills over into adulthood. Borgonovi and colleagues (2018) analysed the results from international surveys on children's and adults' skills, namely the TIMSS, PISA and the Program for the International Assessment of Adult Competences (PIAAC) surveys, acquired between 1995 and 2012. Their aim was to investigate the development of the gender gap in literacy and numeracy from childhood to early adulthood. They showed that, while in literacy the early advantage of females fades in adulthood, the gender gap in numeracy tended to grow favouring males, and this growth was particularly pronounced after the end of compulsory schooling.

The lower scores in subjects that involve numeracy competences may suggest that women enter higher education and labour market with the bias that they are not strong in math and this likely discourages them from opting for STEM degrees. In the following, we will list the most relevant the factors that have been hypothesized to be at the basis of the gender unequal achievement in numeracy.

2. Factors influencing the numeracy gender gap

Many hypotheses have been advanced to account for the math gender gap, emphasizing both distal factors, such as the educational system, and proximal factors, such as individual intellectual (cognitive) skills and socio-emotional (non-cognitive) dispositions.

As to the possible causes concerning to the educational system, the «gender stratification hypothesis» claims that the gender gap in numeracy is due to gender inequalities in the access to power, resources and education (Baker, Jones, 1993). This hypothesis predicts that the gender gap is narrower in the countries or among the cohorts that have been exposed to a less gender-stratified education system, suggesting a more equal education availability. However, cross-national studies revealed paradoxical findings. Else-Quest et al. (2010) estimated the gender gap in math achievement scores, attitudes and affects across the countries that ran TIMSS and PISA in 2003. Their scope was to analyse

the relationship between these measures and various national gender equity indicators. They found that the gender gap persisted in some but not all countries. Interestingly, boys overall reported to feel more confident, less anxious and more motivated towards math, and with a significantly better self-concept compared to their female peers. Among the equity indexes, higher gender equity in education and in research job were the best predictors of more balanced achievement scores and attitudes in math between males and females. Unexpectedly, the authors found that more negative attitudes and affects towards math in females were predicted by greater women's representation in parliament, thus contradicting the gender stratification hypothesis.

In the same vein, Cook (2018) compared the results on the PIAAC of two cohorts of adults, aged 25-34 and 55-64 years, across a number of countries. Their analyses showed that gender differences numeracy were larger among the older cohort than the younger one. The authors suggested that this result was in line with the gender stratification hypothesis, given a reduction in time of gender inequalities in education that lead to a minor gap in the younger generation. However, this pattern was not consistent across countries. In some countries, such as Finland, Norway and Sweden, gender differences in numeracy remained considerable in both generations, probably because equality was reached earlier in these countries. In contrast, in the countries under the Soviet influence, where there was a very stratified education, there was small or non-existent gender gap in numeracy. Apparently, empowering women in education may not be enough to overcome the numeracy gender gap.

Another approach to better comprehend the roots of the gender gap in math consists in the analysis of differences between males' and females' cognitive skills. Mathematics requires a constellation of different skills that are assessed by different numerical tasks, and females and males' performance seems to differ depending of the task considered. In their meta-analysis, Hyde et al. (1990) observed that, while in calculation and mathematical concept understanding there no gender differences were recorded, in problem solving females scored lower than males, and this difference increased with age. Similarly, Keller and Menon (2009) did not find differences between males and females in accuracy and speed of resolution of arithmetic operations, although differences in activation emerged at brain level. Indeed, males showed greater activation than females in cerebral areas traditionally associated with mathematical reasoning (i.e. posterior parietal cortex), while females presented structural higher density and volume in the brain areas specifically involved in the arithmetic task. This suggests that, behind the performance similarity, there may be gender differences in the quality of information processing or in the strategies used to solve the task.

Mathematics has been related to spatial cognition, that is the ability to mentally represent and manipulate objects in space. Visuo-spatial skills have been argued to predict achievement in mathematics (e.g., Newcomb et al., 2019) and in STEM fields in general (e.g., Wai et al.,

2009). As males consistently outperform females in tasks that require to put into play such abilities, this spatial advantage of males might account for their better mathematical proficiency. To test this prediction, Geary et al. (2000) administered to a group of college students the following tasks: a mathematical reasoning task, where participants had to solve quantitative verbal problems, an arithmetic calculation task and a mental rotation task, where participants were required to verify if 3-D geometrical figures, rotated at different grades and on different axes, correspond to a target. Results showed that the male advantage in both mental rotation and arithmetic calculation contributes to male advantage in math problem solving.

Gender differences have been found also with respect to non-cognitive factors, which are known to influence mathematical performance. A relevant example is math anxiety, defined as a feeling of tension that interferes with numbers manipulation and mathematical problem solving (Richardson, Suinn, 1972). Accordingly, high levels of math anxiety have been shown to negatively impact the performance not only in high-level mathematical tasks but also in more basic numerical tasks, such as those requiring to identify the larger between two numbers (Dowker et al., 2016). Additionally, higher levels of math anxiety are commonly reported by females compared to males, but the roots of this discrepancy have not been as yet explained (for a review see e.g., Ramirez et al., 2018).

In sum, a variety of factors may influence the scores obtained in numeracy tasks as well as in large-scale assessments tests leading to the observed international gender gap. As only some of them reflect pure numerical cognitive skills, scholars have been debating on the contribution of cognitive and non-cognitive skills, tested using competence tests, in predicting academic, work and life outcomes. For instance, American students who failed to get a high school diploma, have the chance to obtain a General Education Development (GED) certification after passing a dedicated exam. However, despite the examination requires to solve, among other tasks, numerical reasoning, GED recipients do not obtain satisfactory life outcomes in terms of wages and social payoff in the same way as their peers who regularly completed their education path (Heckman et al., 2014). This is taken as a proof that cognitive skills are not sufficient in predicting life outcomes. There is increasing evidence that scores variability in competence tests are in part explained by non-cognitive factors. Borghans and colleagues (2016) analysed four different large-scale datasets collecting achievement outcomes, intelligence measures and personality characteristics of high school students and adults. Crucially, they found that achievement test scores were predicted by personality measures above and beyond intelligence, thus suggesting that test scores can be influenced not only by cognition but also by personality.

3. Personality, numeracy and gender differences

We use the term personality in our everyday life to describe individual character features. In psychological sciences personality is defined as the group of differential and quite stable characteristics ruling our interactions with the environment (Feist, Feist, 2006). Personality represents the internal dispositions that move of our actions, making our social conducts partly regular. It has been proved to play a key role in determining individual differences in behavior, emotion and cognition (e.g., Allen et al., 2011; Arbula et al., 2021; Carbone et al., 2019; Marengo et al., 2021).

Several models have been proposed to describe personality and its organisation but the most accredited is the Five Factor Model (Costa, McCrae, 1992), which was proven to be a productive taxonomy to classify the structure of human personality. According to this model personality can be captured by five dimensions, the so-called Big Five, which are not mere fixed traits, but reflect the processes underlying behavioral regularities: extraversion, agreeableness, neuroticism, openness to experience and conscientiousness.

Extraversion is characterized by excitability, sociability, talkativeness, assertiveness, and emotional expressiveness. Individuals who are high in extraversion are outgoing and tend to gain energy in social situations. Those who are low in extraversion (or introverted) tend to be more reserved and have less energy to expend in social settings.

Agreeableness refers to trust, altruism, kindness, affection, and other prosocial behaviors. People who are high in agreeableness tend to be more cooperative and to build positive relationships with others, while those low in this trait tend to be more competitive and antisocial.

Neuroticism is characterized by sadness and emotional instability. Individuals who are high in this trait tend to fail in coping with anxiety, irritability, and stress. Those low in this trait tend to be more emotionally stable and resilient.

Conscientiousness is linked to the ability to control effort, to the tendency to organise and plan activities, to good impulse control, and goal-directed behaviors. Highly conscientious people tend to plan ahead, think about how their behavior affects others, and are mindful of deadlines.

Openness to experience reflects one's interests for art and imagination, and the effort put to intellectual activities. People who are high in this trait tend to be more adventurous and creative. People low in this trait are often much more traditional and may struggle with abstract thinking (for a review of the Big Five, see John et al., 2008).

As we argued above, personality traits explain part of the variance observed in competence tests scores and were found to have a predictive role on academic performance both at school (e.g., Borghans et al., 2016) and at university (for a review, Vedel, 2014). However, the association between personality and academic performance seems not to be fixed;

indeed, the five personality dimensions showed to differently influence achievement depending on the school subject tested. Considering some studies investigating how the Big Fives predict test scores in secondary school, it was observed that, while performance on linguistic tests was positively associated with openness to experience, results in math were more strongly influenced by conscientiousness and neuroticism (Brandt et al., 2019; Meyer et al., 2019). Thus, success in different school subjects seems to be related to different individual characteristics, depending on the abilities required, whether mathematical or linguistic abilities. In math, strategic behaviors (i.e., high conscientiousness) and low sensitivity to stress (i.e., low neuroticism) appear to endorse a good performance, consistent with the view of mathematics as a demanding and anxiety-evoking subject.

There is only a handful of studies investigating numeracy and personality in higher education. Recently, Cerni et al. (2021) investigated the relative contribution of IQ and personality to numeracy and literacy skills in university students, taking also into account differences among academic levels (freshmen, undergraduates or graduate) and fields of study. They found that, overall, IQ and personality have a different effect on numeracy and literacy, with numeracy being more strongly influenced by IQ and literacy by personality. However, when considering the different academic stages, an effect of personality emerged also in numeracy: numeracy scores were negatively influenced by conscientiousness among undergraduates, and positively influenced among graduates, thus proposing Conscientiousness as an indicator of competence for more advanced students regardless of their field of study. This evidence supports the role of personality in predicting numeracy skills.

Beyond cognition, personality has been linked also to gender differences. Cross-national studies showed that females tend to report higher levels than men in neuroticism, conscientiousness, agreeableness and extraversion (for a review, see Schmitt et al., 2017) suggesting that women are more sensitive to stress, more altruistic, but also more strategic and energetic than men. These differences consistently emerged across most nations.

A question that arises is whether such gender differences in personality are related to the numeracy gap, as there is evidence for the role of the Big Five in endorsing numeracy performance. To date there is not a clear answer to this question. However, given that there are growing and consistent findings supporting that the behavioral regularities grounded in particular personality traits predict numeracy, we advance the hypothesis that different individual dispositions between males and females may contribute to their different performance in numeracy.

Among the socio-emotional factors influencing numeracy, math anxiety, that is the feeling of fear when dealing with mathematics, negatively impacts on numeracy performance. Studies on personality gender differences reported that women consistently display higher

levels of neuroticism, whereby they are less resilient and more sensitive to mental pressure. This stable emotional and behavioral pattern may make women more prone to experience math anxiety, thus in turn lowering their numeracy performance. However, further research is necessary to verify the goodness of this prediction.

Conclusion

The gender gap in numeracy – whereby women steadily underperform in mathematics tests compared to men – has been associated, on one hand, to the structures and equality levels of the educational systems and, on the other, to individual cognitive and non-cognitive characteristics. Given the emerging literature on the integrating role of the Five Factors of personality in accounting for the variance in cognitive test scores, including numeracy, it is reasonable to assume that the five personality dimensions, or a subset of them, could play a role in explaining the differences in numeracy performance between males and females.

Stable individual differences between males and females may induce different patterns of behavior and emotional experience, which may drive different personal dispositions (attitudes, interests, beliefs) and/or study strategies favouring males. This may advantage males in obtaining higher scores in numeracy tests already from primary school, thus promoting the view that mathematics is a «male stuff» and, consequently, discouraging females from undertaking the STEM pipeline.

Understanding how personality traits shape the differences in numeracy scores between males and females will allow getting a better insight into the mechanisms that contribute to differential numeracy performance patterns across genders. Females and males tend to differ at group level in their personality characteristics, and these differences may interact with the cognitive and non-cognitive skills necessary to acquire higher order competences granting life success.

Institutions have been active in guaranteeing equal access to education and resources to both genders. However, this has not been enough. A better understanding of the factors underlying the multifaceted phenomena of numeracy and STEM gender gap will allow designing evidenced-based interventions and policies in education to reduce these gaps, taking on board that gender differences at the individual level may be responsible for the different choices of a study career. With this in mind, it is possible to work on making a scientific career more tempting for women as well.

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Gendering, Learning, and Scientific Practices: Reinventing Education from the Margins

Gender Differences in Work and Life Paths among PhD Holders in Italy

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ABSTRACT: *The present paper follows in the wake of previous works that have shown changes and stability regarding female educational and working participation in STEM. Our previous analyzes (De Vita, Giancola, 2017, 2021), have shown several solid evidence. First, we could observe how the paths (both study and work) in STEM are formed at a very early age (with important implications for policies aimed at reduction in gender inequalities). We then saw that the gender variable does not act autonomously but acts combined with the social background, creating further differentiation effects «within» the STEM areas. Finally, we have been able to observe that having a high degree in STEM has a relative protective effect for women (in terms of positioning in the labor market) but that a still substantial salary differential persists. In this paper, using the latest ISTAT data produced as part of the survey on the professional insertion of PhD's holders, we will focus on the observation of the previously estimated trends (female participation and differentiation «within» STEM) after graduation at higher level in the education system. The survey (whose data were published in 2019 and refer to the cohorts of PhD's holders who obtained the title in 2012 or 2014, interviewed in 2018) allows precise comparability, a feature that makes the previously listed analyzes possible. Starting from the database, a specific focus will then be directed to the «University-work transition», developing a differential analysis with respect to gender and ascriptive factors. The basic idea is to estimate the factors that most produce gender differences with respect to employment and income size, with a specific focus on the STEM field. Another aspect of interest is to investigate parenthood, having as a control parameter other data on compatible populations (by age and survey period). The paper therefore aims to investigate continuities and discontinuities but also to investigate specific thematic aspects that allow a more in-depth and detailed analysis of social mechanisms and dynamics with respect to differences and inequalities at the highest level of education and in the following life and work paths.*

KEYWORDS: *Higher education, PhD, Gender differences, Economic return of education, Parenting*

1. Overview and Research questions

This paper is part of a more general reflection on the presence of women in STEM (Science, Technology, Engineering and Mathematics) careers. In recent years, the national and international debate has highlighted important changes, alongside the persistence of several mechanisms of inequality (Smith, 2011; Bilimoria, Lord, 2014; De Vita, Giancola, 2017; De Vita, Giancola, 2021). Beside a progressive growth in the presence of women, both in training and in the labor market, women continue to face significant barriers first relate to the distinction between the hard and life sciences, second to the quality of employment in terms of social protections, income and career paths. Against this backdrop, and by distinguish between life sciences and hard sciences, the basic idea is to estimate first gender differences in STEM fields related to occupational conditions and income. Second we have delved into the variables related to parenthood, and especially the presence of children, having as a control parameter other data on compatible populations (by age and survey period). The aim is to analyze whether and to what extent the presence of children impacts in the life and work paths for men and women at the highest level of education.

2. Data and Methods

With respect to the cognitive purposes illustrated, we used data from the survey «Job placement of PhDs» carried out by ISTAT (released in June 2019). The survey concerns those who have earned a doctorate, with the aim of detecting their employment status a few years after receiving their doctorate. The survey of PhDs covered two cohorts, i.e., those who received their Ph.D. degrees in years 2012 and 2014. The survey (conducted in year 2018), therefore, captured employment status six and four years after the degree and, unlike the other surveys in the system, which are sample-based, covered all PhDs in the two cohorts.

The database produced by the survey includes a great deal of information such as: results of the educational pathway; opinions on the PhD experience; insertion in the world of work; mobility experiences, especially towards other countries; family situation of the PhD, both that of origin and that at the time of the interview.

The analyses performed were, in a first step, exploratory in nature. In this step, the different presence of men and women in the various scientific fields covered by the doctoral programs and the single gender distribution of the respondents by doctoral field were analysed. In the next step, after recoding by merging doctoral research fields, we proceeded to analyse wage differentials between men and women, then interacting the parenting variable (having or not having children). The elaboration was carried out through a multi-strata ANOVA (analysis of variance) procedure. Finally, based on the recorded evidence, we moved

on to develop a set of regression models (OLS, *without* and *with* interaction effects between the doctoral field and the presence of children) in order to estimate the effects of variables assumed to be independent with respect to employment status and income.

3. Explorative results: the persistence of gender inequalities

Quite consistent with the results of other research, the feminization of STEM fields follows an uneven trend. As evident from table 1 if we look at the distribution of men and women among the various disciplines we can see how, with reference to the STEM fields, that women are mainly present in medicine and biology while men in industrial and informatics engineering. It is confirmed therefore a kind of model of association between gender and academic sector that affects not only the opposition between humanist and scientific disciplines, but also the one between technical knowledge and relational knowledge, or knowledge linked to the dimension of care as provided for example by medicine and life sciences (Barone, 2011; Barone 2010; Triventi 2010). The trend is also evident if we look at the gender differences (on the right in table 1) within each discipline. The gap is indeed important in industrial and informatics engineering, but also in mathematics and physics. This confirms an ongoing process of feminization, with some areas in which women outnumber men, long standing process in the humanities, and others in which the presence of women is still absolutely marginal.

TAB. 1. *Doctoral area by gender (% of row and column)*

<i>PhD area</i>	<i>Males</i>	<i>Females</i>	<i>Total</i>	<i>PhD area</i>	<i>Males</i>	<i>Females</i>	<i>Total</i>
Mathematics and Computer Science	5,1%	1,9%	3,4%	Mathematics and Computer Science	70,6%	29,4%	100,0%
Physical Sciences	6,6%	2,5%	4,4%	Physical Sciences	70,3%	29,7%	100,0%
Chemical Sciences	4,3%	5,4%	4,9%	Chemical Sciences	41,8%	58,2%	100,0%
Earth Sciences	2,5%	2,3%	2,4%	Earth Sciences	48,4%	51,6%	100,0%
Biological Sciences	7,6%	11,7%	9,8%	Biological Sciences	36,8%	63,2%	100,0%
Medical Sciences	11,5%	18,6%	15,2%	Medical Sciences	35,5%	64,5%	100,0%
Agricultural and Veterinary Sciences	5,8%	5,7%	5,8%	Agricultural and Veterinary Sciences	47,4%	52,6%	100,0%
Civil Engineering and Architecture	8,0%	7,3%	7,6%	Civil Engineering and Architecture	49,2%	50,8%	100,0%

Industrial and Information Engineering	18,5%	5,9%	11,8%	Industrial and Information Engineering	73,6%	26,4%	100,0%
Ancient, philological-literary and historical-artistic sciences	7,0%	12,2%	9,7%	Ancient, philological-literary and historical-artistic sciences	33,9%	66,1%	100,0%
Historical, philosophical, pedagogical and psychological sciences	7,4%	10,0%	8,8%	Historical, philosophical, pedagogical and psychological sciences	39,6%	60,4%	100,0%
Legal sciences	7,3%	7,2%	7,2%	Legal sciences	47,3%	52,7%	100,0%
Economics and Statistics	5,4%	5,4%	5,4%	Economics and Statistics	47,2%	52,8%	100,0%
Political and Social Sciences	3,2%	3,8%	3,5%	Political and Social Sciences	42,6%	57,4%	100,0%
<i>Total</i>	100%	100%	100%	<i>Total</i>	47,1%	52,9%	100,0%

This non-homogeneity of STEM disciplines, characterized by different processes of gender expansion, suggested for further elaboration to distinguish the STEM fields by grouping them into two subgroups. As can be seen from tab 2 we have the hard STEM (Physical Sciences; Mathematical and Computer Sciences; Industrial and Information Engineering; Civil Engineering and Architecture) and STEM life sciences (Chemical Sciences; Earth Sciences; Biological Sciences; Agricultural and Veterinary Sciences; Medical Sciences).

TAB. 2. *Regrouping of PhD areas*

Physical Sciences	<i>Hard STEM</i>
Mathematical and Computer Sciences	
Industrial and Information Engineering	
Civil Engineering and Architecture	
Chemical Sciences	<i>STEM Life sciences</i>
Earth Sciences	
Biological Sciences	
Agricultural and Veterinary Sciences	
Medical Sciences	
Ancient, Philological, Literary and Historical-Artistic Sciences	<i>Other sectors</i>
Legal sciences	
Economics and Statistics	
Political and Social Sciences	
Historical, Philosophical, Pedagogical and Psychological Sciences	

Compared to employment status, having a STEM PhD increases the possibility of being employed for both men and women. As we can see in the table 3, STEM gives an advantage over other disciplines and in STEM life there are no differences between men and women, which in any case are small even in hard STEM. So the competitive advantage of these types of paths is fully confirmed by our data. While a high education for females is always associated with a greater competitive advantage in the labor market, STEM disciplines amplify this advantage much more than for males. As shown in the table in non-stem disciplines the gap between men and women in terms of employment is higher as well as female unemployment is higher.

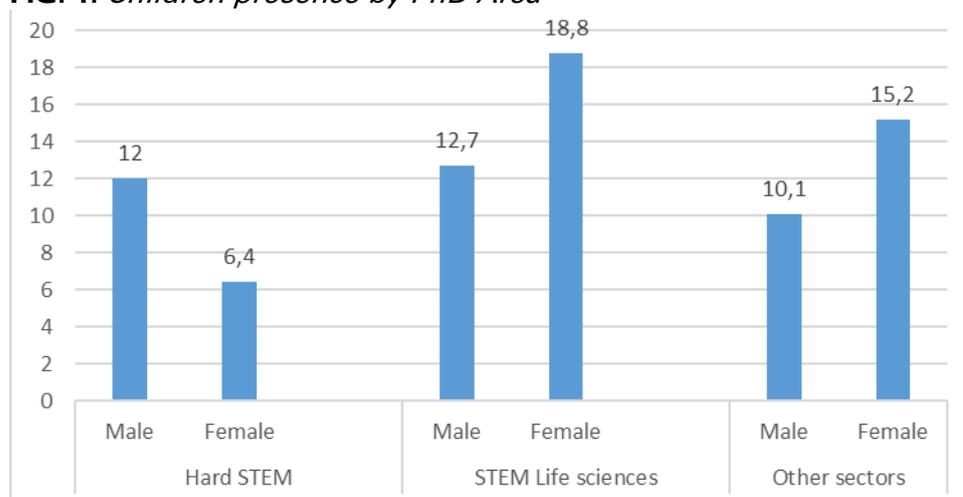
TAB. 3. *Employment status by gender and by PhD area*

		<i>Other sectors</i>	<i>STEM Life sciences</i>	<i>Hard STEM</i>	<i>Total</i>	
<i>Males</i>	Work situation					
		<i>Currently working</i>	78,6%	87,1%	88,0%	84,9%
		<i>Currently working, in more than one occupation</i>	15,1%	9,2%	8,8%	10,8%
		<i>Unemployed</i>	6,3%	3,7%	3,2%	4,3%
<i>Total</i>		100,0%	100,0%	100,0%	100,0%	
<i>Females</i>	Work situation					
		<i>Currently working</i>	75,6%	87,1%	84,5%	82,2%
		<i>Currently working, in more than one occupation</i>	15,0%	5,7%	11,0%	10,2%
		<i>Unemployed</i>	9,4%	7,2%	4,5%	7,6%
<i>Total</i>		100,0%	100,0%	100,0%	100,0%	
<i>Total</i>	Work situation					
		<i>Currently working</i>	76,8%	87,1%	86,8%	83,5%
		<i>Currently working, in more than one occupation</i>	15,1%	7,0%	9,6%	10,5%
		<i>Unemployed</i>	8,1%	5,8%	3,6%	6,0%
<i>Total</i>		100,0%	100,0%	100,0%	100,0%	

The data on transition to parenthood for PhD Holders in STEM fields are already showing important element of difficulties. Data from our elaboration on «Popolazione e famiglia, data warehouse ISTAT» showing that the share of women with children in Italy in the equivalent age group in higher compared to women in STEM fields are significantly higher. In

the same age rank of sample of PhD Holders, the female population have one child between the 27.1% (lower age bound) and 26.2% (upper age bound) of cases and more than one child (includes the previous one) between 50.3% and 46.6%. As evident in Fig. 1, in hard stem the presence of children is the lowest compared to all the other areas. Interesting to point out, while the likelihood of having children in hard STEM fields remains more or less in line with other fields for men, it drops dramatically for women, with a difference of more than 12 percentage points compared to STEM life sciences. This perhaps is linked to the organizational structure that characterizes companies operating in hard STEM. If, indeed, is more common for women in life STEM to be employed in the public sector, companies operating in the hard STEM adopt organizational models that are more growth- and competitiveness-oriented, with limited attention to family friendly policies (Cech, Blair-Loy, 2019). Moreover, the presence of a corporate culture that tends to delegitimize reproductive choices also encourages the creation of a sort of «stigma» linked, for example, to the use of leave, part-time work, etc., and a motherhood penalty (England, Budig 2001) viewed as a manifestation of less effort, commitment to work and productivity.

FIG. 1. *Children presence by PhD Area*



4. Gender and PhD field: from differences to inequalities

As described in the methodology section, after the descriptive analyses, we moved on to the development of a set of multivariate models based on multiple linear regression. In the model reported in Tab. 4, we estimated the weight that variables referring to doctoral area, gender, and age group have in predicting positive employment outcomes. Doctoral pathways pertaining to life sciences and hard STEM sciences were included as independent variables, using as a reference category the one including all other doctoral pathways. The other independent

variables are age groups, with the reference category being those born before 1978, and gender, using «men» as the reference category.

TAB. 4. *Determinants of employment status (dependent variable employed vs. unemployed/inactive)*

STEM Life sciences	0,044
Hard STEM	0,064
ref.cat. Other sectors	-
age group=1979-1982	0,00*
age group=1983-1984	0,026
age group=1985	0,034
ref.cat. 1978 or older	-
Female	-0,061
ref.cat. Male	-

* Not sign. / Coeff. >0,0,5

As can be seen from the model, compared to doctoral paths that can be placed in non-STEM areas, STEM paths have a stronger weight in determining the employment outcome; specifically, it is possible to observe an advantage resulting from having faced a doctoral path in hard STEM disciplines compared to those belonging to the STEM life sciences area. With reference to gender, however, what emerges is the disadvantage for women, which then determines a negative impact in the employment outcome, net of other variables used in the model. Generally speaking, it is possible to say that doctorates in STEM disciplines, once obtained, constitute an advantage in entering the labor market, being able to guarantee greater possibilities of finding employment at the end of the course of study, compared to doctorates obtained in non-STEM disciplines.

TAB. 5. *Determinants of employment status (dependent variable employed vs. unemployed/inactive). Split model by gender with interaction PhD Sector with children presence*

	Male	Female
age group=1979-1982	0,040	-0,024*
age group=1983-1984	0,069	0,013
age group=1985	0,071	0,029
ref.cat. 1978 or older	-	-
Hard STEM – Children presence	0,045	-0,039
STEM Life sciences – Children	0,060	0,022

presence		
Other sectors – Children presence	0,024	0,012
All PhD without Children	-	-

* Not sign. / Coeff. >0,0,5

In Tab. 5, divided by gender, the impacts on the employment outcome of the independent variables referred to age groups and the presence of children among male and female PhDs were evaluated, using as a reference category those who have obtained a doctoral degree and at the same time do not have children. What emerges is that the presence of children among female PhDs in hard Stem has a negative impact in terms of employment, while for male PhDs in the same area the presence of children has a positive impact. Both positive are, instead, the impacts related to the presence of children among those who have obtained a doctorate in the area of life sciences, even if the advantage is greater for men than for women. The presence of children among STEM PhDs does not appear to represent a disadvantage with respect to employment outcomes, although for women the effects of having children tend to weaken the overall advantage that a doctoral degree in STEM disciplines (as reported in Table 4) provides. Young age – with respect to the groups considered in our study – has a positive impact on both sexes; although with greater weight for men, being born after 1978, in fact, represents an advantage for the employment outcome.

In Table 6 we reported the average salary between men and women with respect to the presence or absence of children. Without initially going into the division by PhD area, the presence of children represents a disadvantage in terms of salary for women, with an average loss of salary on a monthly basis of about 61 euros. This disadvantage, on the other hand, is not recorded for men; in fact, on average, male PhDs tend to have a higher average monthly salary when children are present. Delving deeper into doctoral areas, however, while there remains a gender wage difference, it is interesting to note what happens when children are present. Among female PhDs in non-Stem areas and those in Hard Stem areas, the presence of children represents a disadvantage in terms of salary, with an average monthly loss of salary of about 166 and 115 euros, respectively. The opposite case occurs among PhDs in life sciences, where the presence of children increases, on average, the monthly salary by about 100 euros. Overall, the presence of children tends to exacerbate what is the wage differential between men and women, with a more pronounced disadvantage among women with doctoral degrees in stem disciplines than those with doctoral degrees in non-Stem fields.

TAB. 6. *Determinants of income (ANOVA by PhD Field, Gender, Children presence)*

		<i>Total Overall</i>	<i>Hard STEM</i>	<i>Stem_Life sciences</i>	<i>Other sectors</i>
Total Monthly Income		Total Monthly Income	Total Monthly Income	Total Monthly Income	Total Monthly Income
Mean		Mean	Mean	Mean	Mean
No children	Male	2171,9	Male 2212,2	Male 2183,8	Male 2119,9
	Female	1766,9	Female 1808,3	Female 1782	Female 1710,5
	Total	1963,7	Total 1995,1	Total 1981,1	Total 1915,2
With children	Male	2325,3	Male 2343,1	Male 2527,8	Male 2105
	Female	1705,9	Female 1692,6	Female 1881,4	Female 1543,8
	Total	2020,2	Total 2104,2	Total 2132	Total 1824,4
<i>Average income loss Female with children</i>		-61,04	-115,77	99,37	-166,71

In Tab. 7, the dependent variable used is income, with the intent of analysing the weight that age, being female versus being male, and doctoral area crossed with the presence of children have in determining income. Being a woman continues to represent a disadvantage in terms of earnings; the negative value reported in the table indicates the persistence of a wage gap. Having children, together with having earned a doctorate in the area of life sciences, has a positive impact on income, even greater than having earned a degree in the hard Stem field together with the presence of children. Of lesser impact, however, is the question of age, with values that do not reveal particular differences on an age basis.

TAB. 7. *Determinants of income (OLS regression) – Explorative model*

age group = 1979-1982	-0,021
age group = 1983-1984	-0,014 *
age group = 1985	0,03
female_vs_male	-0,202

hard stem w/children	0,022
life sciences stem w/children	0,074
other sectors w/children	0,015 **

* Not sign. / Coeff. >0,0,5

Dividing the model by gender (Tab. 8), on the other hand, we can see the positive impact on income that obtaining a PhD in the Stem area has for both sexes. In the case of women, a doctorate in the life sciences has an even higher positive impact than for men in income composition, while the hard Stem area has a higher weight for men than for women. Finally, having children has a different impact by gender: for men it has a positive impact on income, while for women – albeit slightly – it has a negative impact. In the specific, this result tends to be in line with what was discussed earlier (Tab. 6), with a penalization that affects the average income for women in case of presence of children.

TAB. 8. *Split model by gender with interaction PhD Sector with children presence*

<i>Males</i>		<i>Females</i>	
age group =1979-1982	0,006**	age group =1979-1982	-0,063
age group =1983-1984	0,017*	age group =1983-1984	-0,072
age =1985	0,049	age =1985	-0,018*
Phd Area life sciences stem	0,066	Phd Area life sciences stem	0,082
Phd area = hard stem	0,091	Phd area = hard stem	0,054
presence of children	0,114	presence of children	-0,011

* Not sign. / Coeff. >0,0,5

In this last model, of econometric type, the objective is to detect those variables that affect positively and negatively in determining the income. The value of the constant (803.916) represents the average salary – in euros – of PhDs net of the variables included in the model. Having obtained a PhD degree in Stem areas represents an advantage in terms of salary, with the life sciences managing to guarantee a slightly higher economic treatment than the Hard Stem. In addition, the results show that doctoral degrees in STEM disciplines tend, albeit partially, to narrow the gender-reported wage gap. In fact, treating gender as an endogenous variable, being female has a negative effect on income, with an average monthly pay differential of around 373 euros. In the model discussed here, what seems to weigh most heavily in determining income is contract type. In fact, net of the other variables, it is possible to observe how strong the contractual differentiation is, with

the type of contract assuming primary importance on the composition of income. Having a permanent contract guarantees a higher salary than other forms of contract, with an average difference of around 260 euros between the latter and the fixed-term contract. Finally, the presence of children, while not weighing heavily on income, has an impact on the composition quantifiable at around 70 euros per month.

TAB. 9. *Determinants of income (OLS regression) – Overall model*

	Non-standardized coefficients	Beta standard	Sign.
(Constant)	803,916		0,000
isco_1	1061,577	0,121	0,000
isco_2	549,113	0,103	0,000
Work for a Public Administration or private	74,307	0,033	0,000
STEM Life sciences	193,002	0,086	0,000
Hard STEM	163,198	0,067	0,000
Female vs Male	-373,251	-0,171	0,000
Permanent	832,864	0,376	0,000
Fixed Term	570,327	0,213	0,000
Self employed	680,618	0,202	0,000
Post-doc	432,660	0,156	0,000
Children vs No children	70,362	0,031	0,000

Concluding remarks

The data show, comparatively, the stabilization of female presence in STEM areas. Having a PhD in STEM fields increases the chance of being employed, fosters career paths, and helps to reduce the wage gap. Inequalities, however, remains when looking at job quality. As seen, the wage gap increases in the hard sciences, with the presence of children, and in non-standard occupations. Important, still with respect to income, is the protective effect offered by the possibility, proper to the life STEM, of working in the public administration or in the teaching profession. The data therefore point to the need to develop policies that are not focused only on the supply side. In recent years, several programs have been promoted to increase the presence of women in STEM disciplines. Outreach efforts, scholarships and incentives have been made available to increase women's enrollment in STEM courses. While these programs are very important these policies do not, however, affect structural

inequalities. What seems to be needed instead are demand policies, aimed therefore at reshaping mechanisms and practices for job assessment. What the data presented highlights is the persistent presence of inequalities that continue to constrain the quality of work, especially for women. Looking at the data is still present the remuneration effects that imply that the market offers different pay for men and women for the same qualification as well as penalties related to the presence of children are still important.

In conclusion, years of research based on different sources and methodologies clearly show us how the presence of women in the world of education has progressively grown, overtaking that of men (Fornari, Giancola, 2009). This growth and stabilization, however, is configured as a sort of differential expansion: women enroll and graduate at a higher rate than men, but it is clear that there is a gender bias with respect to the subjects studied (De Vita, Giancola, 2017). This is also reflected, as we have seen, in the choice of doctoral fields. With regard to the labor market, the persistence of a gap in terms of both employment and income even for the highest level of education, such as the doctorate, as well as underlining that the labor market continues to evaluate and pay men and women differently for the same qualifications, also suggests the need to rethink the practices and mechanisms of recruitment and career progression. Given the same level of education, in the case analyzed here the PhD, there are several factors that reinforce the gender wage gap to the disadvantage of women, especially on the side of labor demand and in the lack of policies to support parenting and reconciliation (as also showed at international level by McGivney, 2004 and Carbone and Cahn 2012). These shortcomings seem to penalize women above all, despite the fact that having a doctorate (especially if in the STEM area) partly mitigates them. Although the picture still presents many shadows, even from the data presented, it is clear that the presence of women, especially in some of the STEM disciplines, is now an established phenomenon and that this presence should be further encouraged and supported in view of greater social equity and a more efficient use of human capital, both male and female.

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Gendered Learning Experiences in Collaborative Design Projects with Vehicle Industry

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ABSTRACT: *This paper examines industrial design students' experiences in two vehicle design projects that are carried out collaboratively with industry in the final year design studio course, to answer the following research questions: 1) To what extent and how does designing products for a traditionally masculine and male-dominated industrial sector result in gendered learning experiences? 2) How do these experiences shape students' perception of automotive industry where they can choose to work as a designer? The empirical basis of the research comes from the interviews carried out with 20 women and 11 men students. The findings of the study confirm the discussion in the literature: The stronger the relationship of a design field with technology and industrial production, the more distant women see that field and they approach that field hesitantly in their career choices. However, the findings also demonstrate that by providing students with the opportunity of encountering such stereotypically male-dominated and masculine fields during undergraduate education, design educators create a safe environment in which students can «test» their interests, skills and knowledge in light of their real-life project experiences rather than the popular images of these industries. Although having carried out these projects did not seem to significantly affect the tendency of students to enter the automotive industry, it is equally important that women students, who felt incompetent and insecure at the beginning of the project, gained self-confidence and overcame their anxieties regarding vehicle design. This is an important achievement regardless of whether they would seek positions in automotive industry or not.*

KEYWORDS: *Industrial design, Technology, Design education, Automotive design, Gender.*

Introduction

The uneven distribution of women and men in various fields of design has been placed considerable emphasis by design scholars and practitioners. Several initiatives have focused on increasing the visibility of women designers by highlighting women's work in exhibitions, catalogues and reports (see for example, Doering at al., 1994; MoMA

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2014; NGV, 2019). However, gender issues do not enter into the agenda of design educators very often. Only a small number of scholars have demonstrated interest in relevance of gender in design education by drawing on empirical data. They have argued that the gender-based segregation among design fields starts during the undergraduate education, and stereotypical symbolic associations of women and men with specific design fields are strengthened among students during these years. According to these dualistic associations, design fields that require working in the workshop environment and that are closer to technology are considered to be masculine and «not suitable for women» by women students (Clegg, Mayfield, 1999; Clegg, 1999).

Among these fields, automotive design appears as the most male-dominated industrial sector, towards which women demonstrate hesitation to enter (Kirkham, Walker, 2000). Research based on interviews with students, however, stress that this hesitation cannot be explained merely by women students' individual preferences and interest areas (Kaygan, 2009). As the growing body of feminist research on engineering education has proved, the guidance of society, especially families and teachers, is highly influential on students' career choices. In their research on STEM education, for example, Ikonen et al., (2017) highlight that parents' beliefs and prejudices are the main source for children's gender-typed views on occupations. Even within the same profession, social norms shape young people's perspectives on what is «suitable» for themselves and what is not (Newman et al., 2004).

This paper contributes to the literature on gender and design education by exploring industrial design students' experiences in two vehicle design projects that are carried out collaboratively with industry in the final year design studio course. It focuses on the question of to what extent and how designing products for a culturally masculine and male-dominated industrial sector results in gendered learning experiences. These experiences are significant also because they shape students' perception of automotive industry as a potential work area where they can choose to follow a career path after graduation.

1. Gendering of automotive design

Design practice, like many other fields of work, has been patterned by prevalent gender norms in the society. The extent of which a design field is related to technology and industrial production has been significantly influential on the gendering of these fields. As design historians have demonstrated, women's participation in design has often been visible in home decoration, textile, and jewellery (Anscombe, 1984; Sparke, 1995). Industrial design and automotive design, on the other hand, have historically been dominated by men, and remained design fields where women encountered challenges to enter and find a place for themselves

(Bruce, 1985; Bruce, Lewis, 1990; Howard, Setliff, 2000; Kirkham, Walker, 2000).

Such a «horizontal gender segregation», which refers to the concentration of women and men in separate types of occupations (Hakim, 1996), can easily be interpreted as the natural outcome of the differences in women's and men's preferences and interests. However, a closer look at this segregation with a gender equality lens reveals the strong power inequalities that it results in: The design fields that have a close relationship with technology and that have been traditionally dominated by men offer better career opportunities to designers. Especially automotive design, which takes place at the top of design industries (Clegg, 1999), has a masculine culture that is resistant to change, where issues of gender are continuously ignored, «leaving the traditional corporate structures that disadvantage women and propagate gender imbalance unchallenged» (Dooley, 2017, 25).

Reviewing the existing literature, Kaygan (2016) identifies two main approaches towards women's relationship with technology-related fields of design. The first approach, which was adopted among design historians, is revealing and documenting the names and work of women who remained unacknowledged and invisible despite their contributions to design practice. The second approach, which was championed by women practitioners that struggle to enter job market on the same terms as their male colleagues, is based on the argument that women designers can better understand and address women users' needs and expectations. The latter seems to convince some employers and managers in automotive industry to hire women designers for specific projects. Two cases, one from 1950s and the other from the beginning of the 2000s, clearly illustrate how women-only design teams have been established and promoted to this end in two different companies.

First, in the 1950s, a women-only design team, called Damsels of Design, has been set up by Harley Earl, General Motors' vice-president of styling. Hiring of this team was based on the claim that it would bring a «woman appeal» to cars by dealing with women drivers' problems. However, these women were primarily expected to make decisions regarding the materials, colors, texture and textiles used in the interiors (Kirkham, Walker, 2000; Howard, Setliff, 2000). Earl's press release reveals the marginal status of these women in the male-dominated automobile industry: «So many talented girls are entering our field of design that, in three or four years women may be designing entire car exteriors».

Half a century later, a similar initiative is taken in another automotive company, Volvo, in the Your Concept Car project. According to the press release, in the project team that consists of nine women, four women are responsible for design tasks (Volvo, 2004). The press information released by Volvo shows that, compared to the GM case, five decades brought much sensitivity to the use of 'women's unique perspective' as a gender-based marketing strategy. It places emphasis on women's

competence as professionals as without any references to their femininity: «The project management team behind the YCC consists of five women at Volvo Cars, who brought to the project a broad spectrum of experience in various automotive fields» (Volvo, 2004, 2).

Still, this initiative does not fulfil the feminist intentions on two grounds. First, both the press release and the news on the project imply that this is still not an ordinary case, and a women-only team can be set up only in a special project that aims to better empathise with the woman user (see Volvo, 2004). Second, in the project women design a concept car, which is not expected to be manufactured and sold. Thus, this initiative hardly goes beyond a marketing strategy, to establish a «real» design team. Moreover, according to Schwarzman and Decker's (2008) analysis, this project defines car by using a terminology of household activities, by presenting the tendencies of «domesticating» both the woman designer and the woman user, and reproducing the association of women with domestic space and chores. On the same project Sythre et al.'s (2005) article also offers similar findings. The authors state that although the company intends to empower women and highlight the message that women professionals are as successful as men, the project is presented in the media through the comparison of women and men in light of the traditional gender dualisms. For instance, it is claimed that while men designers and users are interested in the technological features of the car, women designers and users pay attention to the features that may influence the children, such as air ventilation quality.

These two cases are important as they have created a discussion ground for women designers' position in automotive industry. Yet we still do not know much about the actual experiences of designers regarding this industry. Drawing on the industrial design students' experiences in two vehicle design projects that are carried out collaboratively with industry in the final year design studio course, this paper aims to redress this gap by addressing the following research questions:

1. To what extent and how does designing products for a traditionally masculine and male-dominated industrial sector result in gendered learning experiences?
2. How do these experiences shape both women and men students' perception of automotive industry, where they can choose to work as a designer?

2. Two Vehicle Design Projects: Backhoe-loader and Firefighting Truck

This research is empirically based on two studio projects carried out in the final year industrial design studio. The first project that was focused on cabin design of backhoe-loader in 2013-14 academic year, 37 students (19 women and 18 men) worked in nine teams. In the project brief the design problem was identified as follows:

Backhoe-loader is a heavy equipment vehicle that is used mainly at construction sites where it serves for both digging and loading functions alternately. The loader consists of an arm and a bucket, and is attached to the main body at the front; whilst the backhoe is attached at the back. The vehicle is controlled by an operator sitting in the centre of the glass cabin, which is located between these two components. The operator's seat can rotate 180° to provide the operator with access to the controls and indicators of both components. As the direction of the operator changes, however, the interaction between the operator and the controls and indicators becomes problematic. Adaptation to this change in the orientation can be difficult for the operator, and has a detrimental effect on the operator's overall experience with the vehicle. The aim of this project is to rethink the cabin interior with this problem in mind in order to make a contribution to the design of backhoe-loader workstation. (Adapted from the project brief)

In the second project the focus was on vehicle-top equipment design for firefighters in 2015-16 academic year. In the project 30 students (20 women and 10 men) collaborated in seven teams. Students were provided with the following information regarding the design problem:

In this project our emphasis will be on the distribution of team work, the sequence of operation, responsibilities and tasks that the teams carry out during their duties. Firefighting is a demanding and difficult duty that includes highly specialized tasks. Through their training, firefighters gain high levels of expertise on various tasks other than firefighting, such as urban search and rescue, airport rescue, wilderness fire suppression, vehicle extrications, medical emergency, and dangerous goods investigations. Therefore, there are various types of firefighting apparatus developed specifically for these missions, which are customized according to the needs of the team and the duties that they will be performing. (Adapted from the project brief)

Due to the diversity in the firefighting services and the specialisation of equipment used in different vehicles, students were expected to focus on a scenario, and understand the work flow, division of work, and needs within that specific scenario. For example, while a team chose to develop solutions for underwater search and rescue vehicle and teams, another one was interested in vehicles and teams focused on rapid intervention vehicles to be used in large-scale factories in industrial districts.

These two projects, of which design briefs were very different from each other, had a common point, which triggered this research. Both projects were prepared and carried out collaboratively with vehicle manufacturing companies. The gender distribution within the design teams of these two companies was aligned with the picture presented in the literature. In the first project, among the four designers who represented the company, there was one woman. One of the men frequently attended our crits sessions and gave feedback to students. Thus, students did not see the women designer much throughout the project. In the second project, we received technical support from a male

design engineer, who attended crits regularly and gave a lecture on basic technical issues required for the project. Apart from him, there were also two engineers who attended the juries and provided feedback on the design solutions. As a result, in these projects students met automotive industry as a male-dominated field.

3. Research Design and Conduct

The empirical basis of this paper comes from the individual and group interviews conducted with students after the projects are completed. Since the interviews of the first project was carried out before the students were graduated, I could achieve to organise groups interviews with project teams. Four out of nine teams accepted to participate in the interviews, and overall, I interviewed 16 students (8 women and 8 men). Since the data on the second project, was collected after students were graduated and started to work, I could not bring team members together in group interviews. Instead, I carried out individual interviews with at least two students from each team, and 15 students (12 women and 3 men) in total.

Overall, I interviewed 31 students around two sets questions. The first set of questions focused on students' experiences in the project, and investigated the role of gender in 1) setting up the project team, 2) relations with the collaborating firm and other experts consulted during the projects, and (3) the division of work within the team. The second set of questions examined students' viewpoints on working in the automotive industry as well as the impact of carrying out a vehicle design project during the undergraduate education on these viewpoints. The interviews were audio-recorded and transcribed for thematic analysis. Transcriptions were analysed by adopting an «open coding» approach, which corresponds to line-by-line coding with a code list (Rubin, Rubin, 2005).

4. Findings

Analysis of the interviews demonstrated that most of the students had very clear opinions regarding the automotive industry before the project started. During their education, industrial design students carry out various types of projects, from furniture to electronics, playground equipment to toys. Automotive design, however, was considered a separate category, which was difficult to get a grasp of without any prior familiarity with and interest in cars as well as driving experience. Aligned with Clegg's (1999) claim, automotive design was identified by several students as a «dream» that motivated some of the male students to study industrial design. Such a perception can also be linked to the masculine image of popular automotive culture, which depicts a strong affinity

between men and automobiles (Dooley, 2017). Since there are no dedicated transportation or automotive design programmes at Turkish universities, automotive industry hires designers from among industrial design graduates in Turkey. The below quote from a woman student illustrates this:

I would like to work in different sectors, too. But this industry makes me feel like there are people who have dreams in the automotive industry since they were very young and who have turned this into a passion throughout their life, and I will be very weak among them.

Women students' accounts show that they started the project with the following assumption in mind: Students who had had an interest in cars not only as a designer, but also in childhood, or as a hobby, were advantaged in these projects. According to them, «the technical knowledge» that is required to design a vehicle means being familiar with the technical principles of how car works, and the terminology related to driving and components of cars, rather than any design-professional knowledge. Due to their lack of any previous interest in cars and driving experience, majority of the women students felt so disadvantaged compared to their male classmates for the first time in their undergraduate education. This made them anxious at the beginning of the project, as the following quote demonstrates:

We, three girls, sat all day and researched about the vehicle. That's because we didn't know anything about it. We learned, for example, what a shaft is, what a differential is, and how it works, etc. from the man (company representative) who came and taught us. But our male classmates already knew those. And I think that even the toys with which we were made to play in our childhood are influential in that they knew these (and we didn't).

As also obvious in the above quote, students underlined that this situation should not be considered as naturally occurring differences between men and women. Instead, they stressed that it was caused by the gender roles and norms that they have been taught and internalised since their childhood. Women students paid attention not to reduce this to a woman-man comparison, and highlighted that not all of their male classmates had the same level of technical knowledge and interest in cars.

In their reflections on their experiences in the project, however, as they progressed in the projects, learned the terminology, the structure of the vehicle, and the manufacturing methods, their anxiety and lack of self-confidence disappeared. Especially once they moved into the project stages where they dealt with user research, ergonomics, styling and materials, which fall better into the industrial designer's expertise, they gained self-confidence back, and were motivated for the project. A female student who watched how her two male classmates, who have a strong

interest in cars, did calculations on the vehicle's load distribution describes her observations as follows:

The things that I overestimated... I was surprised to see that they could do something very simple, something I could also have done (so fast). They did it using really basic physics. You enter the weights, you write them on the internet, and here it calculates the momentum, and so on. But at the beginning I was scared, I was very scared.

While students' opinions regarding designing vehicles were based on the widespread image of automotive industry in society, their perception of the industry as a potential field where they could choose to work as a designer was shaped significantly by the experiences they gained through their interaction with company representatives. Despite the short duration of the projects, students could observe the strongly masculine work culture in the automotive industry.

Apart from the two male students who had a special interest in automotive design, other male students I interviewed also stressed that they had not felt themselves to be more knowledgeable than their female classmates. Like the women, they distinguished themselves from those male students who had a special interest in cars, but they also agreed with the women students on the fact that women were more disadvantaged in both studio projects and, in a more general sense, in automotive industry, compared to men. Unlike women students, however, they did not link women's disadvantaged status to lack of technical knowledge. In contrast, they stressed that women are not different from themselves in terms of design knowledge and skills. Instead, they explained women's disadvantaged status by the male-dominated nature of automotive industry, where (mostly) male engineers demonstrate unwillingness or resistance to communicate with women. In parallel with male students' responses, women students also mentioned the hesitation, and occasionally unwillingness, of male professionals, especially engineers, towards communicating with themselves. They, for example, indicated that in their technical visits to companies or in company representatives' visits to the studio, when students consulted engineers about their questions regarding the project, engineers often preferred to answer their questions by making eye contact with male team members. Some women students stated that they felt «invisible» in such situations, and these interactions discouraged them to ask further questions regarding the project, as the following quote illustrates:

We consulted (the engineers) to learn about things such as load capacity, because we didn't know which one would be more suitable. They rather thought that we didn't know anything... Yes, we really didn't know, and we wanted to learn, but (their attitude made me feel like) we wouldn't be able to learn, and we shouldn't be involved in such projects.

In the interviews I also aimed to understand whether conducting a vehicle design project during the education impacted the students' approach towards this industry. More than half of the students indicated that it had a positive impact: students who found automotive industry «intimidating» previously gained a realistic understanding of what it is like to be a designer in this industry. In light of their experiences in the project, they stated that designers could play an important role in identifying and solving user-centred problems, and use their expertise in ergonomics, style and materials. Therefore, while at the beginning of the project automotive design was considered a separate category that could be achieved by only the designers with a special interest in cars and driving, it became «just another product category» for the students once the project was over.

Conclusion

Overall, my findings confirm the discussion in the literature: The stronger the relationship of a design field with technology and industrial production, the more distant women see that field and they approach that field hesitantly in their career choices. However, my findings also demonstrated that by providing students with the opportunity of encountering such stereotypically male-dominated and masculine fields during undergraduate education, design educators create a safe environment in which students can «test» their interests, skills and knowledge in light of their real-life project experiences rather than the popular images of these industries. Although having carried out these projects did not seem to significantly affect the desire of students to enter the automotive industry, it is equally important that women students, who felt incompetent and insecure at the beginning of the project, gained self-confidence and overcame their anxieties regarding vehicle design. This is a significant achievement regardless of whether they would seek positions in automotive industry or not. The situation was also similar with most of the male students. Although they did not feel as disadvantaged as their female classmates, they did not align themselves with the masculine popular image of automotive industry either. Studying industrial design in the Turkish context, where women and men are equally represented (Kaygan, 2012), they compared their positions with both their female classmates and male engineers working in the companies, and observed and reflected on the differences in the cultures of a male-dominated and a gender-balanced professions.

Therefore, it can be claimed that university-industry collaboration projects, which are valued by design educators primarily due to (1) the real-life design problems they offer and (2) the expertise and know-how shared by the company representatives with the students, contribute to students' professional development also from a further angle. In every new project, students meet the gendered structures, hierarchies and

interactions embedded in the collaborating professions, organisations and industries through the company visits as well as company representatives' participation in lectures, crits sessions and juries. I suggest that as design educators we can use these projects as opportunities to trigger discussions on the relevance of gender issues in professional identities and practices with students. Such an approach would encourage women students (as well as men who do not consider themselves match such masculine work cultures) to open-heartedly share their concerns and fears regarding the unwelcoming environment in strongly male-dominated industries. Existing studies have underlined that women working in male-dominated work settings, particularly engineering, often tend to develop individual strategies cope with the gender problems they encounter on their own, considering that reporting such problems to management would make them look incompetent or weak. Two common strategies are (1) downplaying one's femininity and acting like «one of the boys» on the job (Demaiter, Adams, 2009; Powell et al., 2009), and (2) distancing oneself from other women colleagues (Sarathchandra et al., 2018). Women students who have already reflected on their gendered learning experiences in the safe and inclusive environment of the educational contexts would be more confident to identify systematic and structural gender-based discrimination in work life.

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Gender and Social Barriers to STEM Education and Training among children in situations of educational poverty in Italy

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ABSTRACT: *Educational poverty limits children's right to education and their opportunity to develop the growth mindset and technical and human skills needed to succeed in school, work and life. Equip Today to Thrive Tomorrow is a project developed by Save the Children Italy (SC) aiming at contrasting this phenomenon by developing children's human and digital skills and enabling them to make informed choices about education/training in a digitally changing world, with a focus on growth mindset and creativity within a gender/intersectional framework; raising awareness on STEM skills and gender equality among parents, teachers and local stakeholders. For the project, an explorative and qualitative Gender and Power (GAP) Analysis was conducted to examine the intersection of individual, relational, sociocultural, and structural factors that prevent marginalized children in situations of educational poverty from accessing and advancing in STEM study and careers. It was based on focus groups and interviews with children, parents, SC educators and teachers. The research findings were integrated in all the activities of the project, through a Strategy. Educators, project staff and gender/intersectionality experts collaborated throughout the process of planning, implementation and MEAL to integrate a gender/intersectional perspective in the content of the activities and methodology to implement them.*

KEYWORDS: *Children, Educational poverty, Gender, Intersectionality, STEM*

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1. Gender and Social Barriers to STEM and educational poverty

In Italy, 1, 346,000 minors (13.6% of children and adolescents in Italy) live in absolute poverty (ISTAT, 2020). Recent data shows that, due to the pandemic emergency, the level of absolute poverty has drastically increased for minors, reaching its highest value since 2005 and thus nullifying the improvements recorded in 2019.

The increase of economic poverty is strictly related to the exacerbation of educational poverty which limits children's right to education and the development of a set of capacities that are fundamental to their success in school, work and life in a world of knowledge and innovation. Educational poverty in particular plays an important role in the lack of learning and development of human skills – including social and communication skills, higher order thinking, and the socio-emotional self-awareness which leads to developments of a positive self-concept and self-control – as well as the growth mindset, needed for children to fully develop as citizens (SC, 2014).

The lack of cognitive and non-cognitive skills is another driver of youth unemployment or low income, particularly for those living in socio-economic disadvantage. In fact, early school leavers, who are less educated and trained than their peers, are less likely to be employed, thus perpetuating the cycle of economic and educational poverty.

The situation is further aggravated for girls who are at risk of marginalization and lack of work and life opportunities. If analysing their situation in STEM subjects (Science, Technology, Engineering and Mathematics), which represent a profitable area of the future, girls are significantly underrepresented in Italy in these sectors. Discrimination and stereotypes experienced by girls are turning into lack of opportunities exacerbated by the several intersectional barriers, such as migrant background, socio-economic status, educational poverty, disabilities and gender discrimination, that discourage their interest in STEM subjects and deprive them from the possibility of pursuing STEM careers (She Figures, 2018; EIGE 2019).

Gender stereotypes and societal conventions, including traditional gender roles within the family, continue to strengthen gender-based profession selections and to impact girls' career choices from secondary school onwards. Girls become attracted to STEM around the age of eleven but their interest then drops significantly by the age of fourteen, during the critical years of adolescence (Microsoft, 2017). Furthermore, in many cases, in the Italian school system, children are not involved in experiential and engaging instruction methodologies but are instead trained with traditional pedagogies that do not inspire interest and development in STEM disciplines (OECD, 2018).

1.1 Equip Today to Thrive Tomorrow (ET3)

In view of the above and building on a consolidated experience, SC aims at implementing projects targeted at children and youth through the *Life*

Skills for Success (LS4S) approach with the purpose of developing their skills, knowledge and personal qualities considered essential to help them integrate positively in their contexts, to interact with others, and to set and achieve personal development and life goals.

ET3 is a three-years project developed in Italy within the broader intervention *Skills to Succeed*. It takes place simultaneously in other countries around the world and it is developed by Save the Children Italy thanks to the support of Accenture Foundation and in cooperation with Save the Children USA.

ET3's main goal is to develop the human and digital skills of boys and girls, between 8 and 14 years old, with the focus on the growth mindset, creativity and gender/intersectional inclusion, developing the technological and digital skills according to the early approach to STEM subjects.

Efforts are made to raise awareness on STEM skills and gender equality among parents, teachers and stakeholders to promote an enabling environment that supports growth and development and prepares minors to make informed choices in the field of education and training and an ever-changing world from the digital point of view.

The project is developed across 9 cities where Save the Children has a long-standing presence through the programmatic actions of contrasting educational poverty inside the spotlight centres¹, a network of hundreds of schools and partnerships with private and public stakeholders.

Using innovative learning methodologies, based on project- and problem-based learning and learning by doing, the project uses STEM disciplines plus art and reading, as tools to stimulate human skills, creativity and growth mindset in boys and girls. A STREAM approach is implemented, where STEM is updated with the «A» of Art and the «R» of Reading and wRiting.

2. Why conduct a Gender and Power analysis?

As project developers, among the main project's objectives we include reducing the risk of reproducing gender and power relations, and generating a positive transformation for the project beneficiaries. The need to formulate both gender-sensitive and intersectional actions becomes essential in tackling existing inequalities or at least avoiding reinforcing them. Even though a gender-based approach and intersectionality often overlap, they stem from different standpoints and, consequently, have different implications. The former captures gender

¹ Save the Children Spotlight centres are high density educational hub centres located in areas deprived of services and educational opportunities where children and adolescents have free access to find opportunities for growth and personal development. The cities involved in the project are placed: n.4 in the North, n. 2 in the Centre, n.3 in the South of Italy.

constructions, relations and expectations *per se* (Haraway, 1988), while the latter delves into the interaction between identity categories and social structures (Crenshaw, 1991).

Starting by analysing the barriers and forms of marginalization and discrimination that perpetuate gender and intersectional social inequality, activities are designed that can strengthen children's and adolescent's rights and foster positive social change. Evidence-based research that identifies, analyses and understands the gender disparities and social relations present is the key to allowing theoretical frameworks to inform project actions. To this end, the development of a Gender and Power (GAP) analysis within the ET3 project allowing to collect data directly through the voices and experiences of the communities, was fundamental to serve their needs and to guarantee a sustainable intervention.

The main goal of the GAP Analysis is to gather information about the individual, relational, social, and structural factors that generate gender gaps in STEM, and explore how these intertwine and reinforce each other, thus analysing gender-related barriers, biases, norms, and roles. Research findings are used to make recommendations that would support children in educational poverty in pursuing school and professional careers in STEM disciplines. By focusing on context, the study also explored the challenges that children experience daily, and the resources they can actually rely on. The research was conceived and designed to develop recommendations and advice that has been and can be applied in subsequent phases of the project to mitigate the gender, social, cultural, and economic barriers that intersect and prevent girls from accessing STEM and advancing in these fields.

3. The GAP analysis: relevance within the project and methodology

The GAP analysis was one of the first activities implemented in the ET3 project, and its findings were integrated into project activities and the elaboration of a GAP strategy (below in this paragraph). The explorative GAP analysis has been developed through a participatory qualitative methodology approach based on gender and intersectionality situated standpointism. In our understanding, embracing standpointism has epistemological implications, since participant's knowledge production and lived experiences are prioritized. From the perspective of the researcher, it requires self-reflexivity about one's own identity and role (as a researcher and in society) and an awareness of possible bias and power relations. On the other hand, intersectionality helps to capture intertwining categories that shape children's experiences.

The data were gathered through 11 focus groups and 9 interviews. The focus group included children (5); mothers (2); fathers (1); and educators – 14 women and 7 men – associated with the Spotlights (3) for a total of

62 participants². Interviews were conducted with fathers (4) and teachers (5)³.

All focus groups and interviews were held online or with hybrid solutions, due to COVID-19 constraints.

TAB. 1. *Number of women/girls and men/boys involved in data collection*

Qualitative Method	Women/ girls	Men/boys	Total
Focus group with girls	9	0	9
Focus group with girls and boys	15	4	19
Focus group with mothers	9	0	9
Focus group with fathers	0	4	4
Focus group with educators of Spotlights	14	7	21
Interviews with fathers	0	4	4
Interviews with teachers	3	2	5
Total	50	21	71

Source: Save the Children (SC, 2021, 14)

The main research questions that guided the focus-group discussion and data analysis were:

1. How do gender inequalities and other forms of discrimination based on socioeconomic status, migration background, ethnic or racial origin intersect and impact children in situations of educational poverty in accessing STEM and their advancement in STEM fields?
2. Which factors at individual, interpersonal/relational, community and societal levels facilitate or prevent girls' participation and advancement in STEM education and careers?
3. What are the barriers, needs, and gaps in developing gender transformative and intersectionality-based interventions and policy that seeks to support girls, above all those in situations of educational poverty, in short- and long-term engagement in STEM fields?

Throughout the process, the researcher aimed to build trust within the group and intervened to rephrase questions and ask the meaning of recurring words and expressions, in order to avoid bias and try to achieve a common understanding. The model of «sharing and comparing» was adopted, a key element in participants' co-construction of meaning in focus groups.

After the preliminary analyses of the data collected, there was a process of «validation» of the same with some of the participants.

² The participation of children and parents was organized throughout the collaboration of the Spotlight educators in Spotlight facilities.

³ Five teachers – two men and three women – in primary or lower-secondary schools were interviewed. The teachers interviewed work in Milan, Torino, Palermo and Rome.

Three meetings were held – 2 with mothers and/or fathers, 2 with children and 2 with educators, in which the researcher presented some of the main research results. These meetings provided an opportunity to delve deeper into certain topics. The data collected during this process were incorporated into the analysis.

As previously mentioned, the GAP analysis accompanied other project activities, with the delivery of a training module on gender and intersectionality, aimed at educators and involving Spotlights' educators, and a workshop on the main research findings. These two sessions were particularly significant because they were attended by people with different roles within SC, holding a wide variety of experiences, backgrounds and knowledge regarding gender and intersectionality. We have seen an increasingly articulated continuity and development, which is particularly relevant and offers insights on the possibility of triggering virtuous cycles for a continuous and systematic integration of a gender perspective within a working group and the project activities.

The strategy development process involved complementary work between the expert researchers in gender and intersectional studies, the project team and the different actors who implement the activities. In developing the GAP strategy, the starting point was a transformative approach promoting change from the causes that generate inequality, and an intersectional approach that took into account identity categories (individual level) and social structures (structural intersectionality). The concepts of gender and intersectionality were applied as levers to eradicate the underlying reasons for power inequalities in society. It therefore implies the promotion of new ways of relating to and rethinking unequal forms of power distribution, promoting disadvantaged individuals and groups through positive discrimination actions, and promoting processes of empowerment for all. This includes a gender and intersectional perspective in training activities aimed at educators and parents, as well as children, who, in turn, will be able to generate change and overcome stereotypes and rigid expectations.

4. Boys and girls in educational poverty contexts and the challenge of STEM training

The data were analysed separately for each target group – children, parents, educators and teachers – focusing on the individual, relational, contextual and structural levels. Many insights emerged from the analysis, however, for the sake of conciseness, we will only briefly touch upon some of the findings and deepen on particularly relevant aspects in order to nurture the dialogue between theory and practice, between reflexive thinking and behaviour change, and in terms of project activities. The knowledge produced and shared is used to integrate the gender and intersectional dimension in the various actions, from planning to evaluation, passing through the main activities such as

training – aimed at educators, teachers and children, and awareness-raising – aimed at parents. This explanatory study assumed several aspects of action-oriented research (AR)⁴ in its implementation and development. To sum up some main points:

A. Firstly, the qualitative data collected confirms the available quantitative European and Italian statistics in terms of the differences in aptitudes, competences, behaviours and choices of boys and girls in their educational performances and paths (EIGE, 2020a; EIGE 2019; SC, 2020; MIUR, 2020; Biemmi, Leonelli, 2017). Indeed, boys and girls were oriented towards educational and professional choices in line with gender stereotypes: service and care sectors for girls, technical and manufacturing sectors for boys. Moreover, when boys and girls expressed preferences related to everyday activities or occupational interests, stereotypical gender trends were identified: boys seem to be more involved in sports or technology-related activities and girls in arts and caregiving activities. This finding will be explored below by considering how gender stereotypes intersect with the economic background of families and the lack of resources (educational and mobility) of the local contexts (neighbourhoods) in which the Spotlights are active (where the people involved in the study live and work).

B. Secondly, regarding the understanding of gender and stereotypes, it is possible to observe in the words of the parents, a clear division of gender work between mothers (reproductive and care work) and fathers (productive work). Gender representations influence educational roles: educators and teachers recognized a tendency to differ in the performance of their roles based on gender. This was noted strongly with reference to the composition of the teams and the relationship with children and parents. In their relationships with technology and digital skills, educators – especially female educators and teachers – recognized a significant difference with respect to gender: men tended to be more interested in and competent with technology than women. The importance of not passing on these patterns to the younger generation was underscored.

C. Thirdly, regarding the idea of (in)equality, children showed an awareness of «gender equality rights» between girls and boys, the recognition of equal competences of girls and boys in mathematics and STEM disciplines, as well as the equal need for women and men to take care of families. This general perception should be consolidated and strengthened. Deeply understanding these statements, consolidating them and stimulating them to broaden their view of problems and possible solutions would help children become more aware as adults and help them in their future choices. The children involved in the research

⁴ AR is understood as «social research carried out by a team that encompasses a professional action researcher and the members of an organization or community («stakeholders») who are seeking to improve the participants' situation (Greenwood and Levin, 2007, 3).

had limited access to technologies, especially computers (in some cases also internet connection), ultimately affecting their skill-level. This lack of confidence around technology seems to affect the development of mathematical and digital skills and interest in STEM subjects. Moreover, the majority of the parents involved– both mothers and fathers – tended to see digital tools as mainly related to leisure and were not fully aware of the importance of digital tools and skills for access to work and professional development.

The following sections will describe in greater depth the gender representation and understating of participants, the perception of STEM and digital issues relating to the human, educational and professional development of children, and the intersections between gender stereotypes and economic family background, as well as the contextual constraints in development.

4.1 Binary understanding of gender and traditional roles of men and women

Traditional notions of femininity and masculinity were identifiable among all target groups, although applied to different topics and varied in emphasis. For example, a gendered division of labour emerged from the focus group and interviews with parents: mothers in most cases perform the majority of everyday tasks connected to the physical care of children and husbands, and the supervision of children's studies and attention to specific needs. The majority of fathers interviewed, instead, are the breadwinners, i.e., are responsible for supporting the family financially by working outside the home.

This labour division is represented also in the cases fathers are unemployed during the realization of data collection. Fathers, in particular, expressed a mix of embarrassment and happiness when they described their «help» at home. Fathers' unemployment issues were a relevant issue. This status was often explained by them as connected with the COVID-19-related crisis and is a source of frustration and dissatisfaction linked to the impossibility of accomplishing their main role as «breadwinners».

A binary understanding of gender also emerged in the discourse of educators and teachers, most of whom framed their responses by focusing on the gender composition in their work context – school and non-formal educational contexts such as Spotlights.

Considerations regarding the relationship between gender and education were linked to socially constructed characteristics that participants usually and automatically consider to belong to men and women: i.e., women are described as more empathetic and sensitive than male educators, for example. Although these issues are nuanced and need to be contextualized, a mechanism for reinforcing gender performance in the educational relationship is visible and relies on the gender expectations of educators and teachers themselves, as well as the gender expectations of boys and girls and parents/families. In addition,

binary gender performance is reinforced by representations of femininity and masculinity at organizational, cultural, and structural levels (SC, 2021).

Within the focus groups and interviews, a process of reflection was initiated regarding gender dynamics that many/most educators and teachers had never considered. Those who had addressed this issue before – a minority – did so through individual training or at the team level, for example through the presence of non-cisgender people in their team. The focus groups discussions and subsequent sessions brought to light the absence of a common vocabulary and framework on gender issues and different forms of inequality. This space for dialogue was taken as an opportunity to exchange different perspectives and points of view on the way we think about the educational relationship. In particular, educators who work in non-formal educational contexts have addressed linking the composition of the team of educators according to gender, the different dynamics triggered in work groups according to the presence or absence of male educators, and the expectations of children and parents.

4.2 STEM and Digital Divide in educational and future profession paths

In order to understand the importance of STEM disciplines for parents and children, a focus on digital transformation and the use of digital tools has been explored further during the data collection. First, it is meaningful that parents seem to have only a partial understanding of how the prevalence of digitalization will impact the labour market, requiring digital competences across occupations – both low- and high-skilled. Television, cell phones and tablets are the technological devices mostly used by children at home – mostly in their free time – and parents seem not to consider them in an entirely positive way. Only a minority of parents have a wider overview of digital transformation after being stimulated with specific questions by the researcher. Parents that use digital tools for work-related reasons seem to be an exception in these contexts: indeed, both mothers and fathers stated they have low digital skills and that sometimes they ask for their children's help, who have greater knowledge of how to use digital devices such as cell phones and tablets. Particularly for school-related purposes – in the frame of distance/remote learning lessons implemented during the lockdown policies – mothers emphasized their lack of ability to use digital technology to a greater extent than fathers. Indeed, the majority of children said they learned to use digital devices on their own. Only in a few cases, fathers and mothers taught them, and in others, elder brothers or sisters did. In most situations, boys and girls do not even know how they might improve their digital skills nor did they have any idea about further activities they could do with digital devices (Save the Children, 2021, 42 – 45). However, at the same time, some of them believe that digital tools can be sources of learning: they can stimulate the «creative side» – imagination and fantasy; they can put distance between reality when they need time to process a sad situation. The internet offers many

resources, knowledge and «how to» guides where you can learn about, for example, cooking (SC, 2021, 56-58).

These examples are explanatory of what will be explored in the following section with respect to the lack in most cases of adult role models employed in activities related to/using science and technology disciplines in their daily lives or for work and the consequent lack of interest that both parents and children expressed with respect to these types of educational and vocational pathways.

4.3. Socioeconomic background, gender and educational inequalities

As mentioned in previous sections, data shows that boys and girls are oriented in their educational and professional choices in accordance with gender stereotypes. Educators stated, indeed, that girls tend to choose studies connected to care and service sectors, while boys tend to choose technical and manufacturing courses. According to educators, gender stereotyped choices are created and reinforced by the social models present in their communities: women are housewives and men have low-skilled occupations. As several studies explain (Giancola, Colarusso, 2020; Giancola, Salmieri, 2020; Hillmert, 2015) and our data confirms, the social, cultural and economic family background and gender affect educational inequality related to secondary education school choice and access to university. Focusing on children's prospective educational and professional paths, parents stated that the most important thing is that children should be free to pursue their aspirations. Higher education (secondary schools) is considered relevant by some parents that refer in general to the importance of education. No parent explicitly mentioned university studies, except one father. During the data validation meeting with parents, it was once again clear that they value as more important factors the low physical demand of a job, the satisfaction, and the happiness of their kids with regards to their future jobs, above what kind of jobs they will choose. A career in the scientific and /or technological sector could be good, but it is not seen in a different way compared to other kinds of jobs (SC, 2021, 45-49). On this issue, educators highlight that there is a lack of public structures and resources encouraging the cultural and social growth of younger generations: schools available in these communities often include only vocational and technical courses. Moreover, in a majority of the contexts described by educators and teachers, local social expectations envision boys and girls mainly in low-skilled jobs and in traditional gender roles: boys and girls tend to be «down-to-earth». They seem not to have great aspirations on which to project their passions and talents. They explain that family models teach children that women accomplish housework and care tasks, and men work in order to earn money for the family without helping in family organization responsibilities (SC, 2021, 67 – 71). The structural constraints of the economic background intersect with gender stereotypes, preventing parents and children from broadening their horizons to the

opportunity of tertiary education, or, generally, to an academic track through Lyceum schools at the upper secondary level.

5. From knowledge to action and back

This exploratory study has attempted to analyse the intersecting individual, relational, social and structural factors that contribute to the gender gap in STEM through qualitative research with various societal groups: parents, educators, teachers and children. The presented analysis based on a small sample of parents, children, educators and teachers cannot be generalized and should be understood as a piece of explorative research able to highlight dynamics and mechanisms rooted in socioeconomic and/or physical peripheries, as well as to pave the way to future large-scale inquiries. At the same time, some trends identified through data collected can be inferred and, in doing so, it is possible to affirm it fills in a gap in knowledge since no previous research has delved into this topic. The opportunity to conduct focus groups and interviews further afield in different geographical areas would help to more deeply understand the perspectives and interpretation offered by educators working in the Spotlights, and consolidate the analysis on data gathered. The migration background variable has not been involved in the presented analysis because it did not surface in the findings.

It is worth valuing as part of this research process the possibility of operationalizing the results of the analysis within the framework of the project's training activities through the creation of a GAP Strategy. Through the process of strategy implementation and the development of training activities aimed at trainers, in fact, it was possible to start a process of systemic integration of the gender perspective in all subsequent training activities aimed at trainers, teachers and children. The participatory approach saw a continuous dialogue between those in charge of the production of knowledge, the members of the project team and the various trainers and educators involved in the individual activities; a process that saw the gender perspective included in a methodological sense in the training activities in terms of content, management and conduct, and language. As is well known, the adoption of a gendered and intersectional lens is a long-term goal that requires a cultural transformation that cannot be understood as a linear process in which steps are taken back and forth, in which each person and each group of people have different ways of acting at different rates (SC, 2021, 77). A first operational goal that has been achieved in this first phase of the project is the common understanding of the need to oversee this process by each and every one of the actors involved who have and assume the responsibility for it.

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Rethinking Digital Spaces through Feminism: Instagram as an Educational Environment

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ABSTRACT: *Some studies refer to the so-called fourth wave of feminism, characterized by the use of social media as a space for claims of gender-related political instances. This can contribute to transform platforms into pedagogical environments to learn to challenge forms of daily discrimination. A further element that characterizes the spread of digital feminism is the possibility of transforming, through the use of social media, 'being a feminist' into something desirable among the younger generations. This proposal tries to analyse Instagram as a sociomaterial space of sharing in order to question the learning processes with/in social networks. Learning processes are enacted by the interaction with Instagram profiles and Instagram pages that create feminist complaint contents, thus rethinking the way of seeing and experiencing genderized bodies and social relations. Online spaces shape, constrain and perform the emergence of a feminist sensibility situated in daily practices of activism whereby 'difference' becomes a functional category to make visible the social and material experience of marginalised bodies. This is an ongoing research, that starts with an initial empirical inquiry carried out to analyse whether some Instagram pages (collective and individual) dealing with feminist issues can become an educational and/or informal learning space to share and shape new forms of feminist experiences aimed at questioning assumptions, and gender stereotypes and constrains often taken for granted in everyday life.*

KEYWORDS: *Digital feminism, educational space, Instagram activism*

1. Introduction

During the last decade, social platforms have become a fruitful space for feminism movements. Looking back over the history of feminism, four waves can be identified. The first wave coincides with the end of the nineteenth century and the beginning of the twentieth century, with the struggles for political rights: in particular the right to vote. The second wave corresponds to the great season of feminism that begins in the early 1960s and ends in the 1980s. It focused on all those aspects of a woman's personal life about great social and political impact, such as sexuality, pregnancy, and motherhood. In this period groups of «self-consciousness» tried to build a collective consciousness that had been

denied for too long. Women discovered and defined themselves as «political subjects», starting to organize themselves politically and making the personal political. The third wave dates back to 1990 and sees the emergence of the concepts of intersectionality and ecofeminism and a more individualistic drive to address gender diversity. Finally, the fourth wave emerges around 2010. It is characterized by the massive use of social networks as allies of the feminist struggle and as a space for claims of gender-related political instances, by a sensitivity towards the concept of intersectionality and «by an online continuation of both the individual empowerment rhetoric of the third wave [...], alongside a renewed interest in collective feminism» (Pruchniewska, 2019:1366).

The fourth wave contribute to see platforms as pedagogical environments in which talk about gender equality and put in question the daily forms of discrimination related to the patriarchal culture (Retallack et al., 2016). A further element that characterizes the spread of digital feminism is the possibility of transforming, through the use of social media, being a feminist into something desirable among the younger generations (Gill, 2016). The Internet becomes a space in which empowerment messages can reach many women around the world, developing the so-called 'pop feminism'. Today, many feminists are women who dress fashionably, wear make-up and heels and go clubbing. The fact that feminism has reached the masses is a good thing, but it also hides some negative aspects. Today's feminism has sidelined collective issues in favour of individual ones. Many women have found in feminism an opportunity for personal redemption and the freedom to do what they want (Arruzza, Cirillo, 2017).

However, feminism is also a collective struggle. Another side-effect of pop feminism is to be able to develop a socially acceptable feminism in which it is possible to identify women who do not hate men, but also women who are thin, white and perhaps straight. A model that has been listened to and simplified by companies. But feminism is not just that, and it does not have to be socially acceptable, therefore meeting standards of non-binary bodies. It is male dominance that feminism tries to combat, even if we often end up adapting it to our needs.

As we have seen, therefore, social networks are a distinctive element of pop feminism and represent a powerful means of communication and activism. It is interesting to ask, however, if they cannot take on additional functions, specifically turning into an educational space. The relationship between educational processes and social networks has been examined taking into account different levels: educate to social networks and therefore take into account all the technical, cognitive, ethical skills needed to use social networks; learn with social or see social networks as tools that possess certain affordances; finally training in social that recalls the dimension of informal learning that social allow as a space of sharing, exchange and continuous connection between users (Ranieri, Manca, 2014). Precisely this last aspect – the possibility of social platforms to become informal spaces of learning among users- is relevant to analyse

and reflect on contemporary feminism. At the same time, it is important to take into account the specific characteristics of the platform. The platform shapes its affordances that is fueled by user practices, in this case feminist activists.

For its characteristics Instagram is the most interesting social site to analyse this phenomenon. Only in Italy, Instagram counts 28 million users, becoming a very effective and powerful tool in the number of people reached and in the way these contents are conveyed. Instagram can be seen as a space in which individualism is nurtured and even encouraged through the creation of digital content ranging from selfies to infographics oriented to build a narrative of the Self: the narration of the Self is carried out through an iconographic language, putting one's own image and body into play through a coherent vision, deleting shadow areas and ambivalences that we all experience. This performs a space where it is possible to create a collective discourse and collective practices.

The platform works following different logics, important in the creation of contents that are often linked to both the business side offered by the platform (e.g. adv) and technical constraints. The three main logics are: the monitoring of the interactions with the page through statistics available to the manager of the same; the creation of contents in the form of posts, IGTV, stories and reel; the monitoring of the number of followers of the page. Instagram, therefore, is configured in its ambivalences as a private platform.

Against this background Instagram can be comprehended as a digital space that activates a learning process. Learning processes are enacted by the interaction with Instagram profiles and Instagram pages that create feminist and gendered complaint contents, thus rethinking the way of seeing and experiencing bodies and social relations (Savolainen et al., 2020). Online spaces shape, constrain and perform the emergence of a feminist sensibility situated in daily practices of activism whereby 'difference' becomes a functional category to make visible the social and material experience of marginalised bodies (Braidotti, 2019; Hooks 2000).

2. Aims and methods

This proposal seeks to analyse Instagram as a sociomaterial space of sharing in order to question the learning processes with/within/in social platforms, in particular whether Instagram can become an educational and/or informal learning space to share and shape new forms of feminist experiences aimed at questioning assumptions, and gender stereotypes and constrains often taken for granted in everyday life.

But what happens when Instagram becomes a space for education to feminist claims? How does feminist thought shape both contents and languages? How does feminist thinking fit the logic of Instagram? How does feminist's engagement on Instagram take place?

In an attempt to put in question these issues, it was decided to conduct a digital ethnography by analyzing ten Instagram pages that address issues and ask for claims related to the fourth wave of feminism, which, as we have seen, is characterized by the use of digital space to perform political practices, by the attention to an intersectional sensibility and by a emphasis on both the collective action of feminism movement and individual empowerment of women (Pruchniewska, 2019). Starting from this definition, the choice fell on two types of pages – individual and collective – to represent as much as possible the heterogeneity of the phenomenon, its contradictions and potential and to remain faithful to the dual nature of the new feminisms.

The individual pages are represented by personal pages of women who, starting from their own subjective experience, their professional skills, their own experiences, have chosen to develop a reasoning and a space in which to talk about feminism starting from what they know best. Among the collective pages, on the other hand, were chosen pages linked to (trans)feminist movements (Non Una di Meno and Lucha y Siesta), a page linked to the campaign for the request for funds from the Recovery Plan (Giusto mezzo), a page made up of a collective of artists and choice precisely for the visual language used (Cheap) and finally a more controversial page and already the subject of investigation in numerous studies (Freeda) but interesting to include in the sample a subject that moves on different logics.

The analysed contents were published in the period of March-May 2021 and have a total of 341 and 78 stories in evidence (see Table 1). The digital ethnography allowed us to identify a series of themes that many pages have dealt with in a transversal way and that we can group in: gender-based violence; gender stereotypes; gender disparities; inclusive language.

The next paragraph proposes an analysis of these macro-themes, used by the pages analysed with the aim to engage users in feminist issues, while promoting books, news and events, contributing to the activation of a learning process with social networks (Ranieri, Manca, 2014).

TAB. 1. *Instagram pages*

<i>Page</i>	<i>Description</i>	<i>Post</i>	<i>Stories</i>
<i>Jennifer Guerra: _jenniferguerra_</i>	Jennifer Guerra Journalist We want to live up to a universe without answers.	27	11

<i>Carlotta Vagnoli: carlottavagnoli</i>	Carlotta Vagnoli Author She/Her I didn't want to break the Internet, I wanted to f**k with it.	15	51
<i>evastaizitta</i>	Giuli Author She/Her ~ 🌈 🍏 Adam blamed Eve for an apple #rebelliousbodies #feminisms #patriarchy	33	5
<i>l'hascrittounafemmina</i>	Carolina Capria Book This is where I talk about books. Written by females. scuoladiletturajosephinemarch.com	11	3
<i>mammadimerda – francesca e sarah</i>	Mamma di merda Blogger Francesca e Sarah. Don't make it a lifestyle. We spread inadequacy and soothe your guilt.	12	6
<i>Freeda</i>	Freeda Behind every great woman there are other great women. it is they who read the messages before sending. #freeda	155	
<i>Non una di meno: non unadimeno</i>	Non una di meno Political organization Against male violence against women and gender-based violence, we have a Plan! ##notoneless #wetogether #permanentunrest	23	
<i>Cheap: cheapfestival</i>	CHEAP street poster art public art, posters, contemporary activism, urban landscapes #CHEAPstreetposterart Bologna, Italy	48	
<i>Giusto mezzo: giustomezzo</i>	Giusto mezzo	9	

	We are asking for 50% of the Recovery Fund on:  care, from childhood to old age  female employment  gender pay gap		
<i>Lucha y Siesta: luchaysiesta</i>	Lucha y Siesta Women's House Lucha y Siesta (RM) self-organized feminist space since 2008	8	2
<i>Tot.</i>	10	341	78

Source: Our elaboration.

3. How to talk about feminism on Instagram

Every page analysed builds an image of struggle against patriarchy that emerges in the attention to the performative power of language. The affordance of the platform allows to identify two ways to interact with its users: on the one hand we find mostly individual pages that use their own experience to nominate sexist and patriarchal practices, on the other we have collective pages that use the platform to convey a gender vision through advertising strategies (Freeda), and to make visible initiatives organized by feminist struggle movements (Lucha y Siesta, Giusto Mezzo, Non Una di Meno, Cheap).

3.1 Recognising and naming gender-based violence

This first macro-theme is treated mostly by personal pages that start from personal experience to talk about sexism practices that all women have experienced at least once in their lives. Here are three examples that seem to us to be representative of the heterogeneity of the phenomenon, in terms of linguistic styles and registers. The first example is taken from the profile of Jennifer Guerra, who uses a language often academic and expert.

Jennifer Guerra is a journalist who collaborates with The Vision and now with Espresso. She hosts a podcast on Spotify «Antibodies» on feminism. She uses a journalistic approach in addressing several issues that are connected directly with the social construction of gender. She wrote two feminist books. Her work seeks to make transfeminist academic language accessible that may be difficult to understand the most, especially the youngest who maybe are approaching feminism for study or curiosity. On her Instagram page we find featured stories in which she builds a feminist bibliography. In this regard it is interesting to report a post in which she clarifies the meaning of the term 'sexism':

There is a widespread idea that you can no longer say anything without someone being offended. Racism, sexism and homophobia are told as little stories, for which we generation of whiners are offended, we are mortified, we put our hands over our mouths waving our parasols and saying «Madam, where are we going to end up? ». According to the Treccani dictionary, offence is «moral damage caused to the dignity of a person (or an institution) by acts or words». Here is, moral is the magic word. The marginalised categories would not be marginalised if their very existence were contemplated by the dominant morality. Instead, they stay outside it, when they are not trampled on by it. Social justice has nothing to do with the pursuit of right behaviour, but with the possibilities to do, be and become what we desire without anyone choosing for us - morally determining - our place in society. When we are discriminated, we are not offended. We are oppressed. We are reminded for the umpteenth time that our possibility of existence is outside what is morally accepted because, surprise!, what is normalised on TV, in the newspapers, in the movies is only what is morally accepted. I think it is important, even as activists, to remember to make this distinction. Prejudices, caricatures and jokes may offend us personally (and this is coming from someone who is notoriously touchy), but at a systemic level the damage is not moral, it is material.

The interesting aspect is the use of concepts that refer to a well-constructed bibliography, such as the reference to the «material», then certainly to Braidotti. The post analysed seem to secularize a theory and a highly technical language making it accessible and recognizable to a wide audience like that of Ig.

Another page that tries to deconstruct sexist attitudes and practices is that of Carlotta Vagnoli. Carlotta Vagnoli is an activist who uses Instagram to sponsor her work as a writer. Her Instagram page becomes her feminist showcase. She claims her femininity by also participating in advertising campaigns such as the one promoted by Zalando (aimed at normalizing sizes and bodies by adopting an intersectional approach). Her Instagram page is a sharing space where to learn about terms and to recognize experiences of abuse or gender discrimination, dissimulating the patriarchal culture that is often conveyed through news reports. The particularity lies in the complaint of some contents mainly informative, television and journalistic, that reproduce stereotypes and gender discrimination dictated by patriarchal culture and for this reason hardly visible precisely because it is often taken for granted that they are «normal» behavior to adopt. In this regard it is useful to report a post in which she tries to give a definition of victim blaming starting from the story Beppe Grillo:

About Grillo, victim blaming and the right time. I put today's stories in a post. Could I have done it directly? Of course, I could have. But you already know: I like to complicate my life. (Slideshow: Rape culture is Beppe Grillo yelling in defence of his son and his friends accused of gang rape of a 19-year-old girl, saying they are just boys "with their dicks in their hands" – a quote reminiscent of the old adage "boys will

be boys”, don’t you think? – and that they are “assholes” – another quote of his – but innocent.) Innocent would come from the fact that the victim reported after eight days. Where do we start to say that this pathetic little show is all wrong? From after the inevitable initial blasphemy, of course. Eight days is the right amount of time because that was all it took for the girl to be able to realise it. This is the only yardstick to be protected. I suffered physical violence and afterwards I went to work, as if nothing had happened, smiling at the customers. There are women who contribute to live the same life as always and after years, suddenly realise the fact. Others only realise it when they read about it in the news or hear stories of survivors similar to their own. Some people have shock removal and reconstruct their history with years and years of psychological work. Time is not decided by the rapist, it is not decided by a code, it is not decided by morality, certainly not Beppe Grillo. To scream that the time between the fact and the denunciation is an indication of girl’s lack of credibility is a clear example of the language of rape culture. The process should be done behind closed doors, with decorum such a serious fact. Justice should be served and until then one should at least have the decency to think humanely. Especially if one has such powers. Because if the court is responsible for the application of the presumption of innocence, it is up to the civil society to know how to welcome and protect people who denounce violence. And to discredit them is not the right way, not even to designate victims of series A and victims of series B questioning on how much is the correct time to realise having suffered a rape. This is not a debate, there are not ‘options on the matter’. Using this bullshit rhetoric discourages reporting in similar cases, blames the victim, and makes the story yet another sideshow for politicians, journalists, and long tongues. The violent tones in which everything is exposed are then perfect to decorate this amazing, umpteenth, devastating shit cake that occurs every time a case of gender violence becomes media. For all the people who instead ‘sympathise’ with Grillo, chapeau: this time too you have made a mistake on which side to show solidarity.

In this post it is appropriate to point out how the activist uses a news story to signal the patriarchal character of a system (including political). She uses her visibility to define these practices as sexist practices that need to be named, contributing to a learning process.

Another interesting page is that of Mammadimerda that tries to deconstruct a stereotypical idea of motherhood. It does so with irony and through the branding of the slogan «you can NOT do it». Behind Mammadimerda there are two women with children who started with a blog and then specialized in communication on Instagram through which they talk about parenthood and the right to work. An example is this post:

BITTER POST. NO LAUGHTER.

«But do you want to go back to work when you can be at home with your children? »

Yes.

«Enjoy them now, then they grow up».

That would be the aim. If not, buy yourself a Polly Pocket.

And the most beautiful of all:

«What are you doing with them? ».

So we can all see the effect it has.

Talking about the need to work because of that habit of eating three times a day seems trivial to us. There is another aspect, which is a little too underestimated. Besides being a right, WE LIKE WORK. We don't want to be ashamed to say it, or even risk incurring the immeasurable pain in the ass that is hearing one of these phrases.

Working makes us autonomous, completes us, makes us satisfied people and therefore better mothers. Working is a necessity, not a pastime. Continuing to have to choose between children and work is like saying: «Do you love Mum or Dad more? ».

We have always written that this blog is there to soothe your guilt feelings. But what are guilt feelings good for? To eat on the couch at night. And to keep women in their place, which apparently is that of take care. If you don't feel like a fully realised woman just because you've procreated, do you have to go to therapy? Do you need to eat more on the couch? No, maybe you just need to change jobs or look for one.

Women's employment has plummeted in the last year because the crisis has hit the sectors employing the most women the hardest, and care work has fallen to us all with schools closed. The work of 52% of the country, which is not a hobby, is nailed to the mast, at the bottom of Europe for women's employment (watch the @azzurrarinaldi explanation of Saturday).

In the draft of the so-called Recovery (PNRR) the money allocated to areas related to the revival of our work has even decreased compared to the first prospectus. Insufficient money on kindergartens, which we know how much they affect our return to work after childbirth. Full time: THOUSAND more canteens in primary school. We will continue to work part time. For women's businesses, which are the ones that grow best and fastest in Italy, crumbs. I told you it wasn't funny.

It is a polemical post that brings attention back to women who feel they are workers and not just mothers. It is every woman's right to be able to work, but this is only possible if we invest in nursery schools, and in building up an idea of parenthood, maybe even talking about parental leave.

3.2 Feminist struggle movements on social media The collective pages try to use Instagram essentially to make public their events and initiatives, in order to involve the widest number of people. Often, they collaborate, through tags and mentions, even with the individual pages analysed.

Among the pages analysed Freeda is a hybrid because it is not a movement but a company that uses feminism and brands that claim a place in feminist culture to speak of patriarchy. For these reasons it is often criticized, and its language is not perfectly consistent and in line with the practices of feminist fighting.

Lucha y Siesta is a house of women, they define themselves «material and symbolic place of self-determination of women against all gender discriminations». The house is the promoter of various activities ranging from the contrast to violence, with the listening desk, the refuge house and the semi-autonomous house, to the organization of cultural events (cineforum, presentation of books, reviews and debates) and workshops and courses (yoga, pilates, workshops). On Instagram they call themselves «self-managed feminist space». The topics covered on Instagram concern gender violence (rape culture, feminicide) and the deconstruction of stereotypes; they also use the page to relaunch events aimed at developing a collective reflection on new feminisms and for the presentation of books. It is interesting to note several aspects that can lead to say that Instagram becomes a space of education on feminism and through feminism: the language is close to the most academic feminism (intersectional feminism, transfeminism) and is also very attentive to the question of inclusivity (use of Schwa); art becomes the vehicle of the message (poster on femicide, comics at the Venice Biennale). We can therefore see how the page becomes, on the one hand, a space to talk about feminism and sensitive issues such as gender violence, femicide; on the other, it represents an extension of the physical space of Lucha y Siesta and an organizational medium.

Non Una di Meno is a political movement transfeminist, intersectional, anti-racist, anti-fascist, anti-capitalist, autonomous from any party, which aims at the radical transformation of society starting from the fight against male and gender violence and against social hierarchies. The movement activity of «Non una di meno» is oriented to the square and the strike. In particular, the global feminist strike is the process by which they have asserted their autonomy, opening up the transnational space for the protagonism of anyone who wants to fight against sexist, racist and neoliberal policies implemented with increasing intensity at a global level. Their political basis is based on horizontality and assembly consensus. They are aware that the parties see them as a pool of possible votes, but they do not go into politics because they want to defend the autonomy of the movement born and raised from below.

In this context Instagram stands as a digital space through which to communicate the political struggle of street movement. It becomes an organizational space to remember the importance of the transnational strike. It also acts as a sounding board for some news of Italian news such as the death of the worker *Luana at work*, or the complaint of cat-calling or victim blaming.

Cheap is a public art project born in Bologna, but it becomes of all through the digital space of Ig. Cheap uses feminist and transfeminist art

to imagine possible futures. For example, in March, posters of boobs invaded the city of Bologna with the intent of «freeing the nipples» going against the same rules of Instagram that blocks content in which you can see nipples.

4. Instagram as an educational environment? Preliminary conclusions

The analysis of the content of the posts considered made it clear that behind these pages there are bloggers, journalists and authors who use Instagram as a performing and performative space. They use social media to re-interpret news and current events that take place in Italy, trying to unravel discrimination and stereotypes fueled by a patriarchal culture, often starting from the personal as in the case of the page Mammadimerda that attempts to deconstruct and resize the gender expectations related to parenthood. In other cases, it is the profession itself that becomes the tool that justifies the presence on this social and that gives value and strength to the words, posts, stories and direct actions on the pages, at the same time exploiting the role of influencers to promote collaboration with brands and companies and follower exchanges through the logic of shoutout. Shouting allows you to increase your visibility through tags or mentions between profiles that have a follower base with similar features. This allows to consolidate the affordance of users/ followers towards influencers that the platform elects such based on the numbers of followers they manage to reach. Therefore, they try to create content through communication strategies aimed at keeping the page active. In this case, the affordance is established in a trust that the user decides to tune by pressing the «follow» button of pages. Their influence is built on the posts, but especially on the stories and direct, which allow a more direct interaction. The stories allow users to interact with the influencer who manages the pages by sending direct messages (DM), while during the live the followers can comment and ask questions that are visible to everyone.

These are tools that allow to build an affordance based on a direct relationship with influencers, who speak directly to their community to discuss news referring to gender discrimination, to clarify some terms or comment on newspaper articles that take for granted sexist stereotypes and linked to a patriarchal culture. It is a deal between influencers and users based on a learning process that is never unique but is bidirectional: influencers create personalized content for their community, which often asks and interacts with the page. The effect is the construction of an informal learning space in which communication strategies and marketing strategies hybridize making feminism «pop».

Online spaces shape, constrain and perform the emergence of a feminist sensibility situated in daily practices of activism whereby 'difference' becomes a functional category to make visible the social and material experience of marginalised bodies. This is an ongoing research,

that starts with an initial empirical inquiry carried out to analyse whether some Instagram pages (collective and individual) dealing with feminist issues can become an educational and/or informal learning space to share and shape new forms of feminist experiences aimed at questioning assumptions, and gender stereotypes and constraints often taken for granted in everyday life.

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Gender Biases in Medical Knowledge: from Education to Daily Medical Practices

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ABSTRACT: *The construction of a medical knowledge calibrated for a male body and for a male life experience has produced a problem of an adequacy of care which is due to a multiplicity of gender biases in clinical practices and research, i.e., forms of distortion of thought and analysis. Gender biases can be seen as the most visible and tangible dimension of a gender-biased medical science, producing a partial knowledge within male organizational cultures. Such biases are reproduced in daily clinical practices as well as in contexts of medical knowledge production: research institutions, medical schools and, more in general, the medical education systems. By reviewing the literature in the fields of feminist epistemology, gender and organizational studies, this article aims at giving account of how biomedical knowledge reproduces gender biases at different levels (clinical, research and educational) of the medical practice, while underlying the importance of a gender-approach to medicine in order to achieve a more inclusive, innovative and democratic knowledge.*

KEYWORDS: *gender in science, gender medicine, gender biases, medical practices, medical education.*

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Introduction

Since the 1960's, feminist epistemology has been questioning the supposed neutrality of science, including medical science (Longino, 1990; Haraway, 1991; Harding, 1996), by showing how the so called «male medicine» (Amoretti, Vassallo, 2017) is based on a male standard of physiology and values (Oertelt-Prigione, Regitz-Zagrosek, 2012).

The construction of a biomedical knowledge calibrated for a male body and for a male life experience is due to a multiplicity of gender biases in clinical practices and research which entail misdiagnosis and standardized treatments (Ruiz, Verbrugge, 1997). Far from being neutral and universal, the biomedical knowledge is a form of partial knowledge moving away from the goal of being innovative and evidence-based (Legato, 2015), while leading to a problem of inadequacy of care (Hamberg, 2008).

Medical knowledge has traditionally referred to a dominant epistemological paradigm based on rationalism, distance and objectification, which are the foundational values of medical education (Verdonk et al., 2009; Miller et al., 2013) reflecting a western androcentric vision of care (Sharma, 2019). Gender biases in medical education are reproduced in medical textbooks, in their language and representations (Martin, 1991; Alexanderson et al., 1998; Dijkstra et al., 2008; Parker et al., 2017), as well as in gender-blind school curricula.

Against this background, this article aims at giving account – through a literature review in the fields of feminist epistemology, gender and organizational studies – of how biomedical knowledge reproduces gender biases at different levels of the medical practice, i.e. clinical, research and educational, while underlying the importance of a gender-approach to medicine in order to achieve a more inclusive, innovative and democratic knowledge.

1. Medicine: a 'Gendered' Science and Knowledge

Gender-specific medicine is an analytical approach that makes physicians and biomedical researchers able to observe how diseases differ between men and women in terms of prevention, clinical signs, therapeutic approach, prognosis, psychological and social impact (Baggio, 2015). This new perspective began to emerge in the medical field when physicians as Bernardine Healy started to observe that women were less hospitalized, less subjected to diagnostic and therapeutic investigations compared to men. Moreover, women also were not at all or little represented in experiments to introduce new drugs, new diagnostic, and therapeutic technologies (Healy, 1991). In one of her most recent papers, Marianne Legato, one of the major promoters of the gender medicine approach, describes the birth and the evolution of the gender-specific approach into biomedical field and how this was tightly linked to feminist

demands of the sixties and seventies (Legato, 2015). The feminist critique of the supposedly neutral positioning of science became, in the case of the medical field, a critique of the *male-standard patient*. Males were the only subjects included in research and male bodies were considered the standard value for a normal physiology (Oertelt-Prigione, Regitz-Zagrosek, 2012). This epistemological approach derived from a position of privilege that refused to discuss the subjective character of scientific knowledge. As Donna Haraway argued, the objectivity of science is only a hidden subjective positioning, which is the positioning of a (white, heterosexual, cisgender) man, a «gaze from nowhere» (Haraway, 1991, 581). The consequences of this positioning of medical science had led to real consequences in terms of adequacy of care. Up until the 1990s, drug trials protocols were allowed to include men only, so as to standardize the results as much as possible and avoid bias related to human variables, including sex and gender (Grego et al., 2020). Such practice has prevented the design of drugs that could address the specificities of women: out of the ten drugs that were withdrawn from sale in the US between 1997 and 2000 because of their lethal potential, eight were more harmful for women than for men (Schiebinger et al., 2016). Finally, it was not until those years that the American National Institutes of Health and Food and Drug Administration declared the inadmissibility of studies conducted only on the male population.

In 2014, both in US and in Europe, reporting sex and gender variables in clinical and preclinical studies was strongly recommended (Clayton, Collins, 2014; Tannenbaum et al., 2019). Nowadays, including both sexes at an earlier stage of experiment is a well understood practice within medical community (Clayton, 2016). By comparing a recent bibliometric analysis conducted in 2019 to the results of a 2009 similar study, a significant increase in the studies including both sexes in all nine medical disciplines is apparent (Woitowich et al., 2020). In 2019, 49% of the studies included both sexes, against 28% in 2009 (Woitowich et al., 2020). However, a recent review shows that nowadays many guidelines and protocols that are available for the clinical practice are not gender or sex specific, even when sex and gender evidence-based data are available (Mauvais-Jarvis et al., 2020).

Generally speaking, a gender-specific medicine should study how sex and gender variables affect health and disease. The difference in chromosomes generates sex differences in the molecular makeup of all male and female cells (Mauvais-Jarvis et al., 2020), while gender «refers to cultural and social attitudes, norms, and ideologies that together shape and sanction 'feminine' and 'masculine' behaviors» (Schiebinger, 2004, 4). Conventionally, human population can be divided into two sexual categories, male and female, even if approximately 1.7% of the world population is born as intersex (Blackless et al., 2000). Starting from this dichotomous vision, gender identity has been historically represented as a binary concept. Nevertheless, gender is a social construct (Berger, Luckman, 1966; West, Zimmerman, 1987) that varies over time and across

cultures and beyond this static and binary categorization gender identity exists in a multiplicity of forms and representations, like transgender and gender-fluid identities. It is very important for biomedical activities to consider these varieties in order to try to include in interventions and studies every human experience and social manifestation of life. In fact, the inclusion of a gender approach in medicine not only enables to build a more democratic and ethical healthcare but it fosters evidence-based and high-quality scientific knowledge, in so far as medical evidence from clinic and research no longer stems from partial population samples (Legato, 2015).

2. Gender Biases in Medical Knowledge and Practice

The main objective of the literature review of the IGPM project was to identify factors that may prevent or encourage the adoption of a gender perspective in biomedical research and in clinical practice. During the research that led to the writing of the review we realized that these factors were not static and monolithic elements but that they stem from the continuous relationship between culture (i.e., the prevailing gender order within a society), epistemic cultures, actions at the institutional level (laws and policies), healthcare, research and educational organizations, professional cultures, technologies, and humans. They work at different levels and within clinical and research practices and are expressed by 'biases'.

The concept of cognitive bias describes an implicit and predetermined attitude to think and react following cognitive and mental patterns, in order to make decisions and judgments by reducing the complexity of the social reality (Gleitman et al., 1999). Cognitive biases in science and in medicine may originate in errors in the research process, for example in data collection or analysis, leading to skewed results or disparities in the treatment of patients. In fact, being unconscious forms of thought and behavior and, therefore, being linked to the cultural background of each individual, some studies suggest that the physician's biases play a major role in healthcare disparities (Croskerry, 2002; Fitzgerald, Hurts, 2017).

Such biases can have a significant impact on clinical, diagnostic, therapeutic and research practices. When expressed within a healthcare relationship between providers and patients, they may vary depending on the socio-cultural and economic characteristics of the subjects involved. Gender biases may arise at all levels of clinical and research practice. They are reproduced in scientific knowledge and in the relationship between researchers, data, technologies and experimental subjects. In the case of trials, biases may occur in the research design, in the choice of the subjects (humans, animals and cells) to be included in the various experimental phases and in the way data are analyzed and reported. However, these biases are not just individual cognitive reactions, but they are the expression of an andronormative culture

deriving from a «gender order» (Connell, 1987, 1995), which does not spare the professional worlds like the medical one.

Several theoretical models have been produced to explain the functioning of gender biases in the biomedical field (Ruiz, Verbrugge, 1997; Risberg et al., 2009). For our analysis, we decided to adapt and integrate the model of Ruiz and Verbrugge (1997) with the analytical categories described by Risberg et al., (2009) and Verdonk et al., (2009), in order to clarify and articulate our explanation.

According to scholars, there are two ways through which gender biases are reproduced:

- *Gender Blindness* (Risberg et al., 2009; Verdonk et al., 2009), by assuming equality between women and men when in reality there is none. This can happen because physicians and researchers assume that diseases' risks, symptoms and progression are equal for both men and women. This assumption derives from the way trials have always been managed, namely the fact that they have mostly been based on men only and then applied to the whole population (Ruiz, Verbrugge, 1997).
- *Gender Sterotyping* (Risberg et al., 2009; Verdonk et al., 2009), by viewing differences where there are none, i.e., by treating men and women differently starting from prejudices derived from a medical attitude that considers women's health as different because of its reproductive aspect (Ruiz, Verbrugge, 1997). For example, several studies (Colameco et al., 1983; Samulowitz et al., 2018) have shown that in relation to complaints about pain, medical staff tend to consider the pain of female patients as more linked to psychosomatic causes than that of male patients.

Using a body metaphor, if we imagine medicine as a human body, gender biases may be viewed as *trigger points* of medical knowledge and practices, i.e., the results of the – cultural and structural – factors hindering a gender approach in medicine, the 'focal points' to be discovered, observed and manipulated in order to find the reasons for the absence of a gender gaze and, at the same time, the potential grounds for interventions. These gender-sensitive points could have multiple forms and could be located in different positions within the medical organizations. They are the 'epidermal expression' of a symbolic gender order within the organization (Gherardi, 1995; Gherardi, Poggio, 2007) and of professional (male) gendered practices (Martin, 2001; Bruni et al., 2004), producing inequalities within the organization (Acker, 1990).

3. Gender Biases in Medical education

Gender biases in medical education are reproduced in medical textbooks, in their language and representations (Martin, 1991; Alexanderson et al., 1998; Dijkstra et al., 2008; Parker et al., 2017), as well as in gender-blind schools' curricula: through both the absence of gender-related content in

classical courses and the absence of special courses on gender medicine (Jenkins et al., 2016). Moreover, as many suggest (Riska, 2001; Nielsen et al., 2017) the under-representation of female professors at the top levels of the academic medical career (Gaiaschi, Musumeci, 2020) as well as the gender segregation across specialties (Pelley, Carnes, 2020; Gaiaschi, 2021) also play a role in the reproduction of gender biases in knowledge and education as long as it contributes to a lack of diversity in terms of epistemological positioning (Sharma, 2019). On the other hand, female researchers and academics have strongly fostered the development of gender medicine over the last decades (Di Nuovo et al., 2018; Sugimoto et al., 2019; Gattino et al., 2019).

In this section we will examine some examples of gender biases in medical education thus arguing that the educational and training context is a space that needs to be questioned in order to imagine interventions to make the medical knowledge more gender sensitive.

In 1995, the University of Ottawa organized the first world meeting in the field of medical education to discuss the importance of making the medical education pathway more gender sensitive (Zelek, 1997). The goals were to make the language and content of the medical curriculum capable of considering sex and gender variables. Since those years several studies started to investigate the existence of gender bias in the content of academic medical textbooks. One of the first critical reviews was published in the US in 1991 by a female physician, Emily Martin (1991). In her work, she consulted the most widely used medical textbooks from John Hopkins University and other academic institutions around the country and discovered that most of the words chosen to describe the anatomy and biological processes of human bodies were, as she provocatively termed them, «scientific fairy tales» or social constructions (Martin, 1991, 486):

Take the egg and the sperm example. It is remarkable how 'femininely' the egg behaves and how 'masculinely' the sperm. The egg is seen as large and passive. It does not move or journey, but passively 'is transported, 'is swept,' or even 'drifts' along the fallopian tube. In utter contrast, sperm are small, 'streamlined', and invariably active. They 'deliver' their genes to the egg, their tails are 'strong' and efficiently powered (Martin, 1991, 489).

If we analyze this extract from Martin's article by using the interpretative grid provided by the theoretical models described in the previous paragraph, we could say that it presents a case of gender stereotyping, insofar as a stereotype related to female attitudes and characteristics, such as being passive, is used to describe a cellular process.

Other studies from the late 1980s and early 1990s brought to light the presence of gender biases in the figurative anatomical representation included in many anatomy textbooks which were commonly used in the most important medical schools of the Western world. In a study published in 1986, a team of scholars tested the hypothesis that female

and male bodies were equally represented in the illustrations included in the human anatomy textbooks which were used at the time in eight western medical schools (Giacomini et al., 1986). The results of the study brought to light an important phenomenon of gender blindness, as 85 percent of the anatomical images depicted male body parts (Giacomini et al., 1986). Two more recent articles have found similar results. By analysing anatomy textbooks used in France and Wales, Morgan and colleagues find that out of seven English-language anatomy texts studied, only two of them equally used the male and female bodies to address non-gender-specific topics (Morgan et al., 2014). On the other hand, and unlike the Welsh case study, the only French-language text examined shows a countertrend, with twenty-one out of thirty images showing female anatomical parts.

Another recent study analysing 17 anatomy texts in use in medical schools in Australia confirmed the hypothesis of gender blindness in relation to the under-representation of female bodies that is not related to the sexual and reproductive functions. It also found expressions of stereotyping in the language used to describe health issues related to emotions, roles and, in general, to the social determinants of health – as if the cultural construction of gender, and in particular some non-biological characteristics, concern only women (Parker *et. al.*, 2017).

With regard to curricula, the literature shows that the prevalent type of gender bias is the one producing forms of blindness, i.e., the invisibilization of gender through the absence of gender-oriented courses and through the absence of special courses on gender medicine. In 2011, a survey on the presence of a gender-sensitive curriculum was conducted in the majority of medical schools in the US and Canada. Out of the forty-four faculty members involved, 70% declared that in their institution a formal sex- and gender-specific integrated medical curriculum was not available (Miller et al., 2013). A more recent American study questioned medical students about the presence of gender topics in the curriculum (Jenkins et al., 2016). Out of more than a thousand participants, only 30% responded declared that the curriculum was sex- and gender-biased (Jenkins et al., 2016). In 2016, a survey of occupational medicine faculty reported that 80% of Italian medical schools did not have a *gender medicine* course (Bianchieri, Mascagni, 2018).

The possibility of experiencing a 'biased' medical curriculum also depends on the presence of trainers who are unaware of the importance of the gender approach to clinical and research practice, although they may not be opposed to its value. A qualitative research study conducted in Sweden and published in 2011 has investigated the opinions and attitudes towards gender issues of male educational leaders in six medical schools in Sweden (Risberg et al., 2011). The results show that all the participants had skills and competences to articulate what gender issues are and why they matter in medicine. However, they almost totally argued that gender-related issues are not part of the scientific training of a medical student because of its unscientific content (Risberg et al., 2011).

Although the medical education system does not yet seem ready to train students in medicine who are aware of the importance of the gender dimension in medicine, several steps have been taken in this direction in the last decade. At the European and international level since the 2000s, projects have been approved to redesign the medical curricula by modifying both the content of classical courses and introducing thematic courses on gender medicine (Miller et al., 2016; Ruiz Cantero et al., 2019). In addition to the content level, the methodological one is also receiving attention. In fact, many reflections are being carried out in the medical field towards trainings with reflexive and feminist approaches, fundamental to question the founding values of Western medicine based on rationalism, objectivity and distance from the research object (Bleakley, 2013; Sharma, 2019). Also in Italy, following the approval of the law 03/2018 on gender medicine and the birth in 2019 of a national observatory (Ministero della Salute, 2019) reflections and changes are beginning to be activated in the field of medical education, such as the proposal, signed in 2016 by the deans of medicine and surgery of Italian medical schools, to include in every course a focus on sex and gender differences in health (Bellini et al., 2017).

Conclusion

Sex and gender biases in medical knowledge can be seen as the 'epidermal expression' of underpinning issues, attitudes, habits, norms, rationales and dynamics that make medicine a gender-biased science. We have used biases as analytical tools for describing how medical knowledge can reproduce stereotypes, prejudices and inequalities that affects medical care, medical education and biomedical research. The examples taken from the literature show us what gender biases are and how they can be reproduced in medical educational contexts.

Sex and gender biases in medicine rely on the epistemological paradigm of science based on an androcentric vision which reflects the gender order of the society in which we live in. This creates predominantly gender-blind medical education contexts thereby producing tacitly male-neutral profession (Parsons, 1951).

Solutions targeting the change in the epistemological paradigm include the introduction of gender-based trainings to professors, physicians and book editors, the adoption of gender-aware curricula in medical schools and the adoption of gender-aware editorial guidelines. However important, such interventions – tackling the cultural level – are not enough. Actions on a more structural level are needed, including, most especially, the pursuit of gender equality in medical academic careers.

The promotion of gender-oriented medical education contexts is crucial insofar as it is from these contexts that medical knowledge can be redefined, and future doctors are educated and trained. As Schiebinger

and Klinge suggest (2013), it is not only a matter of fulfilling a social and ethical duty in imagining a more democratic and inclusive medicine, but it is also about the possibility of building a high-quality medical knowledge, to think about therapeutic paths appropriate to the diversity and needs of all, and, last but not least, to achieve the goal of scientific innovation.

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Youth (Not) On the Move

International Students' Narrative Imaginaries: Italy, Finland and the Cosmopolitan Elsewhere

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ABSTRACT: *Due to the Coronavirus pandemic, 2020-2021 will probably represent a watershed time in youth educational mobility. Although the individual, collective and institutional meanings of studying abroad seem obvious, in the post-pandemic era the academic mobility axiom needs to be questioned. Through analysis of 50 autoethnographies I interpret international master students' imaginaries of Italy-Florence, Finland-Helsinki and what can be called «the cosmopolitan elsewhere». The imaginary of Finland-Helsinki is thin, that of Italy-Florence is richer and more varied: media images and narratives shape students' expectations before their arrival in the host country. The Finland-Helsinki country profile is associated with a vague idea of North Europe, often confused with Scandinavia. The respective autoethnographic passages can be synthetically interpreted as past (Italy) vs. present (Finland). While Italy-Florence's image is almost embedded in a cultural past, Finland-Helsinki's image is almost severed from its history and is seen rather as a geographical entity: the deep and mysterious north. Italy represents a culture of the past and is seen more as a holiday destination while Finland is recognized as a culture of the present and a sort of progressive and industrious land for the future. Further, analysis of secondary scholarly and non-scholarly sources connected with studying abroad reveals the absence of a clear-cut narrative of what it means to be an international student, although there is a glimpse of a vague cosmopolitan narrative. This story, constructed on a global scale by different actors and institutions, upholds the generic validity of studying abroad for both instrumental and expressive reasons.*

KEYWORDS: *International Students, Academic Mobility, Media Images, Cosmopolitan Imaginaries, Young Adult.*

Introduction

Studying abroad has become a global institutionalized practice, but the Coronavirus pandemic means 2020-2021 will probably become a watershed. What will happen in the future? In this article the key

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academic mobility question is not about the how much but about 'who' and 'what' will decline or survive. What meanings do international students give to their study abroad experience? And what is the image of the host country and city before the academic sojourn? The hermeneutic focus of this article is interpreting international students' imaginaries of the host countries and of what can be called the «cosmopolitan elsewhere».

Possible answers to the post-pandemic situation can be found by questioning the tacit and quasi-axiomatic pre-pandemic meanings attributed to this phenomenon, a sort of mobility dogma. However, beyond quantitative socio-demographic data, there is little qualitative empirical material for a deeper understanding of students' overall experience¹. Furthermore, in most studies, the international student is conceived and represented as a mere 'agent'. To capture the hidden meanings of academic mobility we need to know more about who these international students are in biographical and narrative terms.

The qualitative and comparative research project *The Cultural Experience of International Students: Narratives from North and South Europe* analyses narratives written by international master students. I collected 50 partial autobiographies-autoethnographies – autoethnography being the description of self as seen within another culture (Ellis, Bochner, 2000). Research participants were 25 international master students at the University of Helsinki (Finland, representing Northern Europe) and 25 at the University of Florence (Italy, representing Southern Europe). Overall I managed to achieve a balance in terms of age (average 26), gender and geographical provenance. The study carried out during the academic year 2016-2017 continued in two follow-up phases in 2020 and 2021 sharing interpretations in a Facebook group discussion, amounting to a 5-year study timespan. All biographical accounts followed a 3-section *narrative template* developed over my research career with young Italians and Americans (Birindelli, 2014) and refined in a pilot study with international students in Helsinki:

- *departure-preliminal*: social and cultural background of the decision to study and live abroad;
- *transition-liminal*: real academic and overall life experience abroad;
- *arrival-postliminal*: bond with a human being in the host culture and a place that became familiar.

Within the departure-preliminal section I asked participants about what images they had of the host city/country and their media sources, specifying that they could be anything. Here I was essentially trying to reconstruct the imaginary of the host city-country through cultural objects (Griswold, 1994) that might have shaped students' past expectations about the host society and culture they later experienced first-hand. According to Griswold «A cultural object is a socially

¹ Rare examples of qualitative research of this kind are Murphy-Lejeune (2003), Papatsiba (2005), Krzaklewska (2013).

meaningful expression that is audible, visible, tangible or can be articulated. Only when such objects become public, when they enter the circuit of human discourse, do they enter the culture and become cultural objects» (1994, 11). The collective imaginary of the host country-city is divided into general images/cultural objects and more specific images/cultural objects.

1. Helsinki-Finland: The progressive and mysterious natural 'North'

The first striking result stemming from the autoethnography analysis is the absence of any image of Finland-Helsinki. Several international students literally knew nothing of the future host country-city: «I knew nothing about Finland. I did not even know there is a country called Finland. I had a globe and Russia was there, China. But where is Finland? I never heard about Finland in the news» (BN, female, East Asia, Helsinki)².

ZN (f, Central Europe), although European, writes «I really did not have an idea of the place. I did not read any book, saw movie or being exposed to any other media representations». This is one of the most vivid differences between students' imaginaries of Finland-Helsinki and Italy-Florence. Numerous images and media narratives of the latter shape students' expectations before their arrival in the host country.

Students in the Helsinki group who had no image of the host city-country, started to search for information once their application was accepted. The void in their biographical imaginary was compensated mainly by short videos found on the University of Helsinki website, other travel vlogs, blogs and social media in general.

I found some videos on YouTube. Videos were about Helsinki, Finland, nature, lakes... and how is student life in the University of Helsinki. They were all promotional videos. The elements I got out from these videos are snow, cold, nature, richness of resource and darkness (ZH, m, South Asia).

Apparently, the videos did not distort the reality later experienced firsthand: «I searched YouTube and blog. I was not expecting something different from what I found. I was not surprised» (HH, m, South Asia). Before this search HH's media images were not totally absent but limited to one specific cultural object and another general image: *Nokia* and *Aurora Borealis*, synthesizing two recurrent symbolic meanings representing Finland in the eyes of international students: technology – expanding on the symbolism, advancement, progress, etc. – and nature.

Finland is imagined as «a green country full of forests and lakes» (NS, m, West Asia). NS also «imagined that it was cold. I also had the idea that in the winter it would be totally dark, may be for six months». The

² Hereafter: f (female) m (male); Hel (Helsinki) Flo (Florence).

absence of a clear collective imaginary and the scattered images of nature, cold, snow, darkness etc. constructs an interesting and appealing Finnish aura in the minds of international students, in a word: *mystery*.

Finland is a *big question mark*... I did not know anything about the country except for it's fucking cold and people like heavy music I did not even know that Nokia was from Finland until I came here. Finland it's a challenge that you want to face because it's *unknown* (ND, m, Oceania).

In ND's autoethnography we can find a sort of corollary for mysterious Finland: «I knew I would not be with any other *** from my university because it was an unpopular choice». Thus, going to Finland represents an element of distinction from other common study abroad destinations – a sort of reverse (south-north) exoticism.

Even for HD (f, Central Europe) Finland was a mysterious – and melancholic – place. HD's autoethnography reveals that this image was shaped by a specific cultural object of considerable biographical weight. Her older sister was a fan of the Finnish band HIM: «That's how she started to be interested in Finland. And that's how I became interested too, through my sister».

HIM band, they were dressed black, black makeup. The image of Finland was a lot of forests and lakes; people are *mysterious* and *melancholic* (HIM music was very melancholic). Finnish people... It's like they have more space to think, more creative space. It's not necessarily more *happiness*.

HD's autoethnography points us in a valuable heuristic direction by mentioning a rock band and the word 'happiness'. In the autoethnographies the cultural silence about Finland is interrupted by the sound of music. This is probably the most articulated symbolic representation: «I had some familiarity with some of the bands from Finland... bands like *Nightwish*, *Children of Bodom*, *Apocalyptica*» (ND, m, Oceania).

'Happiness' is another key word to reconstruct the weak imaginary of Finland. The idea of a happy place does not stem from the narrative of a book, a movie or documentary; this image is the result of indexes found in world rankings.

I wanted to go to the countries that were ranked the happiest in the world according to surveys. All the Nordic countries are pretty high in the *happiness ranking*... I think because the Nordic countries are so *egalitarian*, that's why they are the happiest. Even though they do not have much sun during the winter even though they have their own problems, they still have fewer problems than other countries because of the *welfare state*. (NY, f, North America)

For several other international students their idea of Finland was shaped by ranking and statistics: «I read somewhere in a book about the welfare in Scandinavia... I also saw statistics, countries from North Europe were

always ranked at the top of the quality of life: GDP per person, happiness, safety» (ST, f, East Asia).

Interestingly, it is not the image of Finland but of North Europe in general. Finland is frequently located in Scandinavia, and when we get down to more precise cultural objects, several of them are wrong. They are either Swedish or arise from a vague idea of what we can call the «deep north».

'Education' is another image of Finland found in rankings: «I heard good things from the PISA survey. Although I do not find it as good as it is presented in the media and recounted by teachers» (ZN, f, Central Europe); «I had a vague idea about the peculiarity and goodness of Finnish education» (IT, m, Middle East); «I have seen a video made about Finnish educational system which shows that in Finland students don't have to study too much but this system is still one of the best in the world» (BN, f, East Asia).

Education is definitely a theme delineating Finland in the eyes of international students, and is not just the result of a quick look at rankings in some online article: «I read about the quality of public elementary schools in Finland. And I read two-three social science articles about elementary school education in Finland» (SZ, f, Africa). It is not just Finnish education that features in social science texts but progressive social policies in general. Some students start to imagine the host country as a sort of ideal, idyllic country.

Finland in study books was always represented as the ideal country for a lot of different policies, in relation to maternity leave, childcare, gender, rights for homosexuals and lot of things like that. So I started to become very curious (PH, f, South Asia).

However, in this case too the analysis reveals media images or other narratives not focusing precisely on Finland, but related to North European countries or Scandinavia: «The picture I had of Finland and Northern European countries, was that they are super-developed... Socialist states, with very good social benefits, welfare states, equality» (EP, f, EurAsia). And for several students the idea of Finland is a mere reflection of Sweden, considered the archetype of North European imaginary: «Thinking of northern Europe, we've got the Swedish image as the mother tree» (QS, m, North America). The images of Sweden are quite ordinary stereotypes: «In *** the 'Nordic brand' is very successful. Especially Sweden... Sweden is blonde and they like sex, and there is ABBA. You know, there are these stereotypes» (ND, m, Oceania).

The identification of Finland with Sweden is also influenced by Swedish cultural objects wrongly attributed to Finland, such as the music band «International Noise Conspiracy. They looked really Nordic, tight pants, fashionable but left» (ZW, m, Central Europe). In several other students' narratives the media mismatch is even more evident. Most of the time they force a vague association of images such as cold-snow to Finland. For instance when a student mentions an association of ideas between Finland and the Japanese anime television series «Heidi, Girl of

the Alps» that she believes takes place in Austria – the setting is the Swiss Alps: a multiple mismatch.

Finland is identified with an imaginary landscape that we can call «The Deep North», and several students only started to have a better idea of the host country through internet search after being accepted on the Master program. If we search for more precise cultural objects, besides those already mentioned connected with music, social policies and quality-of-life rankings, we find very little (Jary Littmanen, sauna). QK (m, South Europe) mentions the cartoon *Moomin*, but this is because one of his parents is Finnish.

EP's narrative allows us to construct an empirical and hermeneutic bridge with the group of students in Italy-Florence and the global imaginary of Italy. Interestingly, EP visited Helsinki before. As we will see in the next section, besides the richer imaginary compared to Finland-Helsinki, the majority of the international students visited Italy during the holidays, and some of them even several times.

I came to Helsinki for a short two days visit. A very quiet city, not very tall buildings, greyish. Before that date I knew something about this country, but nothing specific. I would not think that something is booming here, something is happening... just very plain and boring... I knew about Santa Claus. «If I think about Italy, for instance, I can picture it more vividly: beautiful landscapes, cities like Rome or Milan, cuisine, etc.» (EP, f, EurAsia).

2. Florence-Italy: The fascinating extra-ordinary cultural past

As anticipated in the previous section, compared to Finland-Helsinki, the analysis of international students' autoethnographies in Italy-Florence reveals an abundance and diversity of media representations. We find an image of the host country-city well delineated through various cultural objects in different thematic fields and in various media sources: textbooks, books, movies, music, advertising, social media etc. The narrative combination of these sources – for several students integrated with direct experience as a holiday destination – constitutes a sort of *Italian and Florentine Dream*: «My dream was to come to Italy» (PW, f, South Europe); «In my opinion Florence is *la più bella città nel mondo* (the most beautiful city on earth). I love Italy and the Italian language» (ZY, f, South Europe). As one student writes, Italy is 'subconscious': «I always wanted to come here. Maybe because of the movies I was watching and the book I was reading. My subconscious made me want to come here» (WW, f, EurAsia).

An important element stemming from students' narratives is their strong socialization to the *Made in Italy* brand, mainly linked to fashion: «I saw Italy as a brand. And Italy to me was fashion... I remember commercials on TV about glasses and fashion, or in magazines» (KS, m, East Asia). Lived everyday life in Italy sometimes confirms the idea of the

stylish Italian – «Here you always have to be on point, I confirm this idea now» (MU, m, South America) – sometimes it doesn't, albeit validating Made in Italy and Italian Lifestyle as a crucial element of the imaginary: «I always thought about Italian people as very stylish, but in the reality I see that in my university they are not that stylish» (FP, m, EurAsia).

FP confirms the Italian lifestyle as a key motivation for studying abroad – «I am here because of the Italian life» – and the familiarity of some students with Italian social media influencers displays the pervasiveness of fashion and style as central to their imaginary of the host country: «I follow on Instagram a blogger, her name is Chiara Ferragni and a model, Mariano di Vaio» (KS, f, South Europe).

MH (f, Africa) reinforces the Italian image connected with fashion rather than study – which, as we will see, is of secondary importance, almost an excuse – and students' previous exposure to a variety of media in this sense. She also cites the key theme of Italy as *historic* country, and another fundamental and more recent topic: Italy as *food*.

I thought I am going to a country with a lot of history and fashion. I get these ideas of Italy in TV, movies, social media... I always thought about fashion or exotic dishes. Italy was never in my mind connected to academy or work... I picked those images in movies (8 MH, f, Africa).

Another key theme is *art*, mostly in the field of architecture: «My image of Italy comes from study textbooks: mainly history of art and architecture» (XO, m, South Asia). It is important that, compared to Helsinki, Florence has a specific and unique place in the imagination, and the expectations are fully met during the sojourn: «I like this city because of the art, architecture of Renaissance» (QO, f, East Asia). Artistic cultural objects and images stem from the Renaissance grand narrative: «I had the image of Florence as Renaissance, because I studied it in secondary school: Michelangelo, Leonardo Da Vinci, etc. It was included in the course 'Universal History'. Florence to me was Renaissance» (MH, f, Africa). The picture of Florence absorbed through textbooks was very clear before the departure: «I had this architecture in mind: narrow streets, big churches... I could imagine myself walking in these streets» (VU, m, South America).

The narrative-biographical approach of this study allows in-depth reconstruction of what contributed to shape international students' imaginary. It emerges that several students had already visited Italy, confirming and reinforcing the place of Italy-Florence in the global (especially tourist) imaginary. Media representations and actual vacations in Italy are often biographically alternated and mixed: «I came here when I was 15 years old. I did a cruise in the Mediterranean. I visited Verona, Venice, Rome» (MU, m, South America); «I go to Italy every year, because my parents have an apartment in the *** Alpes... I am familiar with Italy» (IT, f, Central Europe).

The interpretation of these narrative passages is quite simple. The students – either with their family or later in life – had one or more

vacations in Italy and were fascinated by the *Belpaese*. Back home they started to cultivate the idea of going back for longer, in-depth experience of Italy and Italian life: «I was in Italy some months ago, before I made my decision. I fell in love with the city... I thought that I should try. Florence was my only option» (NA, f, Eurasia).

A Master program, especially an international one, is a specialist, career-targeted degree. Yet for some participants study is not the real motivation for being abroad. EE (f, EurAsia) bluntly writes: «I am in Florence because I want to enjoy life. I do not want to spend my life eight hours per day in front of a computer». In this case, and for most of the international students in the Florence group, studying abroad is not a means towards finding a highly specialized job, or starting an academic career with a PhD. It is instead a combination of studying and travelling, where the former seems an excuse for the latter: «I like travelling and I was in Italy three years ago. I thought I would study to have more opportunities to travel around Italy» (EE, f, EurAsia).

Other students visited Italy repeatedly before their master abroad: «I was a tourist in Italy more than 10 times, than I lost count» (ON, f, East Europe). For ON Italy became her elective country, the place on earth most attuned to her personality, where she was meant to be: «I thought that this country was created for me or that I was created for this country, and I was born in *** by accident».

We can also reconstruct another hermeneutic itinerary that starts with the study of art-architecture at home, the first-hand Italian experience during holidays, and the consequent decision to live in Florence.

I liked a lot history of architecture and I was studying it back in ***. I thought it would be nice and useful to be a student of architecture and seeing the Duomo any time I wanted. That's why I decided to come to study in Florence (EE, f, EurAsia).

Even here the desire to nourish oneself on art on a daily basis greatly supersedes any other academic motivation: «I am here because I like art, I very passionate about art... I am here more for myself than for studying, for my personality» (GL, f, EurAsia). We might say that some of these students are abroad for cultural and aesthetic self-growth, or more simply for a life experience rather than to study: «The first thing was going to Italy. The second was to choose a city that I like. Only at that point I searched for a Master program in the university of Florence» (QO, f, East Asia).

Digging deeper into media representation of Italy-Florence we realize that the imaginary of Italy has the contours of a holiday destination. The sources of Italy's images are richer and varied, including several movies that have the power to shape a narrative and evocative representation of the host city-country. On the contrary, the group of students in North Europe never saw a movie representing Finland-Helsinki.

EE (f, EurAsia) makes a direct reference to the movie *Under the Tuscan Sun*: the archetypical romantic narrative of Florence and Tuscany

(Birindelli, 2020). She also mentions the *Vespa* scooter. This is a recurrent cultural object in foreign movies portraying Italian life, easily linked with visions of a vacation in a fun and sentimental past. In this case the movie-matrix is clearly the famed *Roman Holiday* starring Gregory Peck and Audrey Hepburn, explicitly mentioned by several international students in Florence as a narrative that shaped their imaginary about Italy. MH (f, Africa) reinforces these meanings and makes it clear how her image of Italy was totally disconnected from academe and profoundly linked to an idea of the host country as a trendy holiday destination: «I never thought of Italy in academic terms. Italy is always represented as the destination of celebrities, a holiday destination. Most of the movies are American».

Focusing on the movies, we can observe that those most mentioned belong to the romantic comedy genre: *Roman Holiday*, *Eat Pray Love*, *Under the Tuscan Sun*, *When in Rome*, *Letters to Juliet*. Two movies that can be considered more intellectually committed, opening a thoughtful cultural door on Italian society and culture, are *Novecento* and *The Best of Youth*. *Novecento* is an epic-historical-drama about the lives and friendship of two men and the fascist-communist political conflicts in Italy in the first half of the 20th century. *The Best of Youth* is a historical drama set in Italy between 1966 and 2003. The saga traces a middle-class family through the major political and social events in post-WWII Italy: the protests of 1968, mafia wars, corruption and terrorism. These are significant because in the international students' autoethnographies – and the general study-abroad discourse – Italian modernity tends to remain in the shadows (Birindelli, 2020). Nevertheless, PW (m, Middle East) at the end writes:

One year before I moved to Florence I saw an Italian movie *The Best of Youth*, a very long movie about an Italian family saga from the 60s to 2000. In this movie, I got this idea of the Vespa, the small Fiat 500 car. This kind of stuff. This simple Italian life. This movie gave this image of Italy.

It is as if, no matter what they see or experience, a narrative center of gravity attracts students toward an easy-going, recreational and romantic idea of Italy: a vacation from real life.

Conclusions: One cosmopolitan dream, two divergent cultural experiences

We can synthetically interpret the dedicated autoethnographical passages in a comparative way as past (Italy) vs. present (Finland). While Italy-Florence's image is almost embedded in a cultural past, Finland-Helsinki's image is almost severed from its history and is seen more as a vague geographical entity: the deep north. Finland is conceived as a mysterious and remote place up north, and this mystery makes the country fascinating.

While Finland is 'north', 'cold' and 'nature', Italy is 'south', 'warmth' and 'culture'. Italy represents a culture of the past while Finland is recognized as a culture of the present and an enlightened and progressive land for the future. This image of Finland as an educational promised land derived from the PISA survey and other international higher education rankings. Finland is absent in the movies seen by international students, but it is present in music – albeit identified only as hard-rock, metallic music. Other key images are quality of life, welfare system and gender equality.

Analysis reveals that the social, cultural and academic experience in Finland-Helsinki is more connected to ordinary everyday life, experienced all year long. Using Freud's famed cornerstones of humanness, Finland is more '*arbeit*', Italy-Florence is more '*liebe*'. Study abroad in the *Belpaese* seems an extra-ordinary experience that goes beyond everyday life. And this sort of *Italian Dream* has a limited temporal duration: namely a vacation. The Italian sojourn is like a play on a well-defined stage, with a clear script made up of articulated and internally consistent images-narratives derived from movies, advertisements, fashion, Made in Italy and previous holiday visits.

Nevertheless, the divergent cultural experiences have a common (transnational, global, cosmopolitan) imaginative denominator. The results of this study suggest that international students were exposed to a kind of global academic mobility story, a dogma that runs: better go than stay. This belief transcends the two country-cities and, to a certain extent, even the educational motivation. International students respond to the imperative of 'going': mobility wins clearly over stasis.

This academic mobility dogma is part of a global story that endorses the generic validity of travelling and living in the «cosmopolitan elsewhere». And the importance of 'elsewhere', as Appiah (2019) writes, must be preserved in «defense of cosmopolitanism». Studying abroad in the cosmopolitan elsewhere, as MH writes, is then 'idolized': «In my hometown living abroad is idolized. Most people from my hometown went to the US and now are going to Australia. Having someone from the family living abroad is associated with a high social status» (MH, f, Africa, Flo).

The elsewhere is not undistinguished but affluent: United States, Europe, Australia. However, besides class-induced distinction (instrumental and/or expressive) interpretation of the collected narratives suggests another potentially foundational meaning for the studying abroad experience that I conceptualize as *existential*. This (individual and collective) cultural significance has a latent but potent explanatory power linked to interrogatives about birthplace, dream place and place in the world.

Media and social media expand our sense of the «generalized elsewhere» (Meyrovitz, 1989) through increased awareness of other places and non-local people. If the possibility of imagining oneself «elsewhere» is seen as a product of late modernity and cultural

globalization, finding one's place in the world becomes an element in the construction of individual identity. A distinctive and better «elsewhere» where the young can express their human potential and live a life more attuned to their personality.

Beyond the quest for a personal promised land, this study revealed how studying abroad also embodies a dual transitional passage towards adulthood and global citizenship (Birindelli, 2018). Nevertheless, in this training camp to become cosmopolitan (Hannerz, 1990, 2005), it is not altogether clear what 'cosmopolitan student' means, since there are no cosmopolitan stories featuring international students, hardly a trace of a well-defined script derived from a structured plot in a book or a movie. Stories representing the Euro-Cosmopolitan student are apparently still stuck at the 2002 movie *L'auberge Espagnole* (*The Spanish Apartment*).

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(Im)Mobility: The Calabrian Young People Experience in the 'Waiting Room' during The COVID-19 Pandemic

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ABSTRACT: *Mobility has become an «evocative keyword» of modernity implying «a world of movement on a global scale». With the spread of pandemic on global level, a reshaping of mobility is taking place both in relation to the issue of immobility and the emergence of new regulatory regimes. Young people are set up in a context of (im)mobility, configuring suspended or interrupted transitions. This process implies the need to revise the mobility paradigm centered on the dichotomous idea that distinguishes mobility from immobility, producing a positive idea of the individual that is antithetical to that rooted in a place. In the present work the condition of immobility has been interpreted through Bourdieu's theoretical frame using the concepts of field and habitus. A new field called «waiting room» is configured in which the terms of the relationship between mobility and immobility are redefined and are no longer mutually exclusive but in a continuous osmotic relationship with each other. The theoretical proposal has been verified through an empirical research carried out in 2020. The findings are based on the analysis of 40 in-depth narrative interviews with Calabrian young people, aged between 18-35 years, who have been come back to their village/town during the pandemic emergence.*

KEYWORDS: *Waiting room, Young people, Mobility, Immobility, Pandemic.*

Introduction

In Youth Studies mobility has taken on an increasingly important role in interpreting the multiform transitions that young people practice and experience in many contexts on a global level as it is considered one of the fundamental indicators of youth transitions (Robertson et al., 2018). Young people are placed at the center of global experiences that are supported by institutional arrangements and regulated by new mobility regimes. In this context, it emerges a vision of a subject that assigns to mobility a new field of «identification» for young people (Dolby and Rizvi 2008, 1) becoming an «evocative keyword» of modernity (Hannam et al., 2006) that implies «a world of movement on a global scale» (Cresswell, 2006, 15) which affirms a «subjective awareness of global opportunities» (Rizvi, 2011, 182). This model is often presented as a strategy

implemented by a reflective agency in order to solve the problem of job insecurity, to improve its own skills and have greater career prospects. It is a conception of mobility that tends to recall both a de-traditionalized, individualized model of the individual (Beck, Beck-Gernsheim, 2002), who autonomously constructs his/her own biography, and an ideological process of formation of a liberal subject who freely and individually chooses his/her own life path (Yoon, 2014). This process is based on a doxa that can be defined «the imperative of mobility» (Farrugia, 2016) which recalls the inevitability of having to be mobile and creates a culture of mobility and an imaginary that feeds the hope of economic and personal success in which the entry in the knowledge economy market requires an individual antithetical to that rooted in a place (Allen, Hollingworth, 2013). This is fueled by an «imaginative aspect» of personal action, centered on what has been called «the dream of mobility» (Cairns et al., 2017) which takes on a variety of meanings (Cuzzocrea, 2016) and practices such as international internships, study/work holidays, study abroad as well as the search for work and personal self-realization. More specifically, for the new generations, mobility is conceived as an experience aimed not only at improving one's skills and competences, but also as a search for one's self that is built through the encounter with the other (Snee, 2013), which promotes self-development and transition processes (Frändberg 2015). As a consequence for young people mobility is one of the most important phases of their life cycle as it not only promotes and supports the transition from training to work but offers educational and lifestyle experiences (Tomaney, 2014; Plöger and Kubiak 2018) that allow the acquisition of skills, knowledge and resources suitable for navigating in a global context due to the accumulation of the «cosmopolitan Bildung» (Salazar, 2014).

In youth culture, mobility represents an attractive, creative and full of opportunities field as well as the expression of a winning and modern lifestyle compared to the sedentary one, stigmatized as blocked and unable to produce those experiences and resources necessary to participate to the competitive and qualifier game of the global and mobile world.

Recently, however, mobility not only presents itself as a diversified and hierarchical reality based on social classes, ethnicity, gender and geographical origin (Sheller, 2018), not always associated with a positive and linear idea but, with the spread of the pandemic, a reshaping of the field of mobility is taking place on a global level both in relation to the issue of immobility and in relation to the emergence of new normative regimes. This configures a youth reality that appears wedged in a context of (im)mobility in which suspended or interrupted transitions are configured. This process implies the need to review the paradigm of the turning point of mobility centered on a dichotomous/opposite idea that distinguishes mobility from immobility, producing a positive idea of the individual that is antithetical to that rooted or placed in a place.

In the pandemic phase, mobility is configured as a potential field but systematically incorporated within the field of immobility. This makes it necessary to redefine the concept of mobility considering it closely connected with the experience of immobility. The new reality of (im)mobility is characterized by the irruption of immobility in a field in which it was, both theoretically and experientially, excluded and absolutely irreconcilable. This determines paradoxical conditions or the reshaping of young people's life strategies.

1. The theoretical frame

The paper intends to analyze the condition of young adults in the inner areas of Southern Italy through Bourdieu's social space theorization. The complexity of the social world, according to Bourdieu, is the product of a reality in which the subject can be involved in several fields, each of which is made up of its own social dynamics, competitive logic and rules. The field concept allows the representation of social space as a differentiated structure (Bourdieu, Wacquant 1992) understood as a «network or configuration of objective relations between positions» defined by immanent laws that regulate the hierarchy of social positions occupied by agents. Each agent, on the basis of different social positions, regulated by different degrees of capital (economic, social and cultural), can be inserted in different fields that require, in turn, different groups of «dispositions and expectations» (Bourdieu, 1990). These dispositions are called habitus, conceptualized as the set of patterns generated by particular conditions (socialization in family and school) that shape the way individuals think and act. Habitus, however, are not only «structured structures but also structuring structures» (Bourdieu, 1990, 53). This means that they are structured by the social conditions that precede them but also have the characteristic of being structuring as matrices of choices, decisions and generators of creative changes. This process is not based on a mechanical but a generator principle as there is an interconnection between field, capital and habitus characterized by processes of mutual influence and transformation (Wacquant, 2016). The young people interviewed find themselves stuck in their transition process within a new field, produced by the interrelation of two fields, the imagined mobility and the experienced immobility, which resembles a «waiting room» where the trajectories of mobility are imagined during the permanence. In this new condition there is a redefinition of one's habitus which determines different implications that can assume both a greater emotional and imaginative investment in the field of mobility, as well as a recovery of the relationship with the place of origin. Drawing on the concept of «spatial reflexivity» (Cairns, 2017, 413), which associates mobility with a high degree of reflexivity and a specific familiar habitus, it is possible to show how in the new field of the «waiting room» a process of reorganization is structured in young people, functionalization

of the habitus in relation to the new rules required by the field where mobility and immobility coexist. This highlights how the development of young people mental structures, as well as the professional ones, are not acquired only through the experience of mobility but also through the practices of immobility and above all by the constant confrontation, conflict and/or interaction between the two fields (permanence and mobility).

More specifically, if the new condition makes the possibility of passing from the local field to that of mobility only potential, at the same time, it makes real the experience in a new field of waiting regulated by the principle of suspension, of the postponement that becomes interlocking, rethinking and reformulation to the decline of their aspirations but also the recovery of a new process of settlement, of living. Young Italians, in the inland areas of the south, inserted in the new field find themselves suspended between reality and imagination, entangled in a paradox between persistence, at least on the level of aspirations and/or the level of planning of the desire to be mobile and the pandemic reality that forces them to manage and build their own life course in immobility.

2. The socio-economical context of youth mobility in Southern Italy

The data released by the latest Svimez Report (2020) on the development of Southern Italy illustrate a dramatic situation: in 2018 over 138,000 residents canceled from the South, about 50% of them were aged between 15 and 34; a quarter moved to a foreign country and a much higher percentage than in the past (one third of the total) had a degree. Over the last two decades there has also been an increase in the female component of emigration, which has now almost reached the same level as males. It should be noted that the data relating to internal and foreign mobility underestimate the phenomenon for two fundamental reasons: not all those who leave modify their residence in the place of arrival. Furthermore, pendolarism outside the region involves nearly 18,000 people: about 4,600 work in the other Southern regions; 11,600 work in the Center-North and 1,600 work abroad.

In Calabria the resident population is constantly decreasing, going from 1,970,521 inhabitants in 2016 to 1,912,021 in 2019, with an always negative natural balance. These trends, according to ISTAT forecasts, in the most prudent scenario, would imply for Calabria a loss of almost half a million people in 2065 (almost a quarter of the current one).

The main reasons linked to the migratory flow certainly include university study (Contini et al., 2020) and work. A forced mobility that of young people who, unable to find a job suitable for their prospects, are forced to emigrate. Above all, those who have a strong aptitude in the arts and crafts migrate, but also and, increasingly, those with a high level of professional and cultural training. The new migration is characterized by the massive presence of young people whose average age is

increasing in recent years also due to the growing presence of graduates who complete their studies at an older age than their peers (SVIMEZ, 2020).

The latest survey focused on young Calabrian graduates was carried out in 2016. It emerged that on average 4,000 graduates leave Calabria every year in search of gratification. More than half of the emigrant population flows (50.8%, 148,267 people in absolute value) have a medium-high level of education: 19.6% of the interviewees have a qualification at least equal to a university degree, 31.2% possess a diploma (91,052), while the remaining 49.2% (143,679) have a low level of education (27.5% have a middle school certificate while 21.7% have no qualification or only an elementary school certificate). The most important data concern the age of those who emigrate: the 63.5% has less than 34 years of age (www.demoskopika.eu).

Respect to the working condition, youth unemployment in Calabria is about 52.7%, one of the highest in Europe, especially as it regards the age group 15 and 24 years, and it is among the 10 European regions with the highest NEET rate (27.85%) (EUROSTAT, 2017).

3. Methodology

The research project started in September 2020 and is still ongoing. At the moment youth and young adults from internal areas of Calabria have been interviewed, aged between 18 and 35 years, who, due to the pandemic, have returned home or have had to change their mobility project while waiting to be able to leave. The choice of age group 18 to 35, rather than 18 to 24 years of age, is in line with the categorical notions of youth used by Italian researchers (Balduzzi, Rosina, 2016). Participants were recruited by adopting a snowball sampling design from initial contacts and posts on social media.

The research technique consisted of in-dept narrative interviews. At the moment 40 subjects (25 women and 15 men) have been interviewed. The research project was originally designed to address two main research questions: 1) how has pandemic modified your mobility project? 2) Did the return home change the relationship with the place of origin?

Participants are characterized by a heterogeneous configuration with respect to their socio-economic and territorial origin; they are mainly graduates and employed in fields almost always corresponding to their qualifications.

During the interviews participants recounted about their context of origin (family, friends, the place where they live, previous job, job' and life's level of satisfaction), their experience of (im)mobility and the change process. All the interviews were conducted in Italian via skype and key parts were translated by the authors. Pseudonyms were used to protect the identity of participants.

4. Discussion

This paragraph illustrates the results of the qualitative research on the experiences of young Calabrians who, due to the pandemic, have returned in their place of origin. The aim of the research was to listen to the voices, the stories of young Calabrians, and how the immobility experience has interact with mobility. As it can be seen from the stories of the protagonists, the way of living the permanence in the waiting room is not just an individual condition but represents the dynamic of several factors: the previous experience of mobility, the judgment on the life context before departure, the role played by the family of origin. Three case studies are illustrated, representative of the different ways in which young Calabrians experience their own waiting room: Fabrizia's anchored waiting room, Mariano's cage and Francesca's comfortable waiting room.

4.1. *The anchored waiting room*

Fabrizia is 28 years old, she graduated in Social Work and awarded a first level Master in International cooperation. She currently lives in a small village in the province of Cosenza. Her parents are retired and they both have high school diploma.

Fabrizia has had various experiences abroad: «I wished to put into practice what I had studied». After graduation she spent 3 months in China to carry out a European volunteer service, then she went to England for an internship in social work and then returned to Italy, going to live in Naples where she began working as a sushi chef, due to the lack of job opportunities more inherent to her degree. Due to COVID-19, she reluctantly had to return to her native village.

Fabrizia describes her condition as «rather hybrid and transitional»: «I would have had to leave for a year of civilian service abroad, in an African country; unfortunately the departures were hindered by the pandemic and so I did a back-up and I am back home...».

The pandemic has resulted in a suspended reality: «The lockdown is over but I still don't have the green light to go abroad, so I am in a phase in which I have to stay here at home because I could receive a call overnight and leave». In her field, a block of mobility is realized that does not stop her completely, at least at imagination level (Cuzzocrea and Mandich 2016; Cuzzocrea 2018), but leads Fabrizia to reconsider and rethink it. The field of the waiting room, into which Fabrizia is catapulted, generates a complex process of adjusting her projects within a delicate balance between the desire not to give up the dream of mobility - understood as freedom, self-realization- and what permanence can produce. In the waiting room Fabrizia has acquired and developed a process of reflexivity produced not by the experience of mobility but by the obligatory permanence. This process has two consequences: the first is the reformulation of her life projects which also implies, if necessary, a downward revision of her professional aspiration and a recovery of

informal skills or embedded cultural capital (Bourdieu, 2001): «I am willing to leave tomorrow if I receive an interesting offer in my professional field but I also begin to wonder if it is not the case to look for another job; a parachute could be the opening of a sushi restaurant in Naples».

The second consequence of the permanence is the rediscovery of her cultural roots and of its specificities which leads her to rethink the life practices of the culture to which she belongs, such as, for example, the ability to know how to use time as a social resource for living in community: «My fellow villagers and I know how to use time to talk and listen to others; this ability has also value at economic, commercial and social level because we are able to generate trust in others with lasting effects over time». Fabrizia identifies in the recovery of a «slow» time the process through which her own culture of belonging produces social capital.

Three months after the interview Fabrizia, in order to get out of the «waiting room», accepted a job in Milan as educator in a nursery school and sushi maker in the evening. She has not given up her project as a volunteer in Africa but she does not exclude that in a few years she may return to her country or that her experience may be a stimulus for some of her fellow villagers.

4.2. Waiting room or cage?

Mariano is 34 years old, he is graduated in Italian literature and has a master in political and economic journalism. He comes from a town in the province of Catanzaro. He works as a journalist for some local and swiss newspapers. He is also press officer for an MP and a MEP and communication consultant for some companies. His father, fifth grade, was a penitentiary policeman now retired; his mother has a high school diploma and is a housewife.

Mariano is inserted in a family context from which he has not received any support or stimulus for the realization of his aspirations, indeed in many cases he has had to face the attempts of disincentives on the part of his parents. His familiar habitus, totally asynchronous to his life projects, was instead a spring: «I did everything alone, with great emotional effort. I often found myself facing situations alone and this made me very independent». This internalized mental structure underlies all of his choices and has fueled his determination to do what he can to leave the original context. After graduation he wins a scholarship to attend a Master during which he has the opportunity to do an internship in New York where he works as producer in the editorial office of a radio. The New York experience is the realization of his «dream of mobility», an experience so radical and shocking that at first he is incredulous about his luck and success.

The American dream ends in 2018. Mariano returns home and begins working as a journalist and press officer for the two deputies. He enters the «waiting room» of immobility, thinking that he will soon be able to

return to the United States. A permanence justified exclusively for instrumental purposes «I gain well. I would be stupid if I were looking for a job as a journalist in Milan because I would earn less than 2000 euros a month. The thing that made me stay at home is the possibility of saving money to be able to return to New York and the fact that I have no expenses to bear». Pandemic transforms Mariano's waiting room into a cage, eliminating any possibility of leaving the country of origin. Contrary to Fabrizia's experience, immobility has exacerbated his non-link with the place of origin: «I don't have a sense of belonging to these places, I don't claim my belonging to Calabria. Here I have family and many friends but I don't feel linked to this place. There are no emotional reasons to stay here». There is a dichotomous vision in him that associates mobility-abroad-realization versus immobility-country of origin-dissatisfaction:

I don't know how to describe these places from a social and cultural point of view, there is a tendency to immobility on the part of those who live here. Many of them work abroad by pure chance because if they had had a job here they would not have left, they are not enterprising at all, they do not like exploration or get involved.

He is currently stopped in his place of origin, waiting for the great opportunity that will allow him to go to the United States.

4.3. A comfortable waiting room

Francesca, 26 years, is graduated in Statistics and works for a company that offers advice to insurance companies. She is originally from the city of Reggio Calabria. Her father, high school diploma, is a real estate agent; her mother is graduated and is a teacher.

In 2017, one month after graduation, she received an offer to carry out an internship in Dublin at the headquarters of an Italian bank. She accepts the proposal because she believes that she misses the experience abroad having not done Erasmus, showing how her mobility is a cultural trait of her generation. Her family habitus nourishes and supports her choice of mobility, both morally and economically. After the internship, she is hired for a full time job and stay in Dublin for about 3 years:

A good experience from the working point of view but I missed my family, my boyfriend, my grandparents: it was difficult for me to live these relationships at distance, with a climate, a culture and an atmosphere totally different from ours. Even at a cultural level I didn't feel fine: in Dublin you live indoors, you live in pubs, this clashed with my personality, I'm used to be outdoors and move with greater freedom.

In March 2020, due to the pandemic, she returns home and starts smart working, thus leaving the field of mobility to enter the waiting room. Three months later she receives an offer from a company in Milan and changes job always operating in smart working: «I had a personal malaise, I wanted to go back to work in Italy». In Francesca's waiting room

a process of reflexivity begins, which leads her to compare the experience of pre-pandemic mobility with that of permanence. This reflexivity leads her to consider the culture to which she belongs in a different way: «I realize that I have a deeper look of many aspects of life that I previously considered superficially: the possibility of taking a walk, meeting friends, living outdoors». These aspects, before departure, were judged negatively for no reason:

The people from my city have a habit of always complaining, a provincial mentality of those who never move from home and cannot recognize what's beautiful and positive in your city. I can't say: I didn't like this before and now I like it, it is more correct to say before I didn't look carefully, I looked at the surface. Going abroad, realizing what I was missing when I was in Dublin, I learned to appreciate everything.

Francesca's rethinking of the place where she lives is constantly evolving, also including areas that were unimaginable for her before leaving such as, for example, the possibility of volunteering. This means that mobility was the spring that made aspects of her personality emerge faster than, according to Francesca, would have emerged anyway but perhaps with longer times and different modalities.

Francesca's story overcomes the dichotomy mobility-reflexivity vs immobility-irreflexivity. At the moment she is still in her comfortable waiting room and she hopes that this situation can continue even at the end of the emergency linked to the pandemic, continuing the smart working in order to combine job aspirations without leaving the context of origin.

Conclusion

The COVID-19 emergency has hit the new generations who represent the most vulnerable social group both for the precarious conditions and economic and working uncertainty and because being young means making choices concerning self-realization, work, autonomy, coexistence, the establishment of a new family unit and so on. Among these choices, mobility is configured as the trait that characterizes the new generations since it is a strategy through which young people not only look for work but also undertake processes of self-realization and personal growth, placing them in a new perspective that we could define as «planetary humanism» (Licata, Pasqualini, 2020). It is a sphere of life strongly compromised by the pandemic in which the problematic condition in which the new generations have found themselves catapulted, in a very short period of time, into an unprecedented reality in which a practice considered obvious (the right to be mobile) is radically denied. This caused a significant contraction in youth mobility: some managed to reshape their mobility project, others postponed them and many had to give them up. This process is even more dramatic in the

internal areas of Southern Italy, characterized by economic and social disadvantage, where mobility is one of the strategies implemented by the younger generations to cope with the crisis of the labor market and build a future in order to be realized. professionally and personally.

In the present work the condition of immobility has been interpreted through Bourdieu's theoretical frame using, in particular, the concepts of field and habitus. From the interviews, the structuring of a new field called «waiting room» is configured in which the terms of the relationship between mobility and immobility are redefined, no longer as two mutually exclusive fields but in a continuous osmotic relationship with each other. Three types of waiting rooms are illustrated in the work: anchored, similar to a cage and comfortable. Fabrizia's passage in the anchored waiting room is short but sufficient to make her recover her relationship with her place of origin; for Mariano the waiting room is a cage from which he is unable to escape, exasperating the already conflicting relationship with the context of origin; Alessandra's waiting room allows her professional aspirations to coexist with the bond with the context of origin and it is so comfortable that she hopes that it can be transformed into a definitive field.

In conclusion, future research lines should pay more attention to how the waiting room could represent a new modality that not only combines individual aspirations with the desire to remain in one's own territory but above all promotes the reactivation of those processes of accumulation of social resources and knowledge necessary for the development of the South and of all the peripheral areas of the country.

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Rethinking Youth After Pandemics? Reintroducing Agency and Generations

Thinking through Adolescent Subjectivity and Agency and their Role in Supporting Mental Health: a Contribution to the New UK's Mental Health Act

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ABSTRACT: *Late-adolescents (16-18 years old) experience multifaceted aspects that contribute to their mental health (MH), particularly, the inevitable pressure of high-stake examinations. This largely stems from the pressure of transitioning to adulthood with increased responsibilities for one's future. It is here that compulsory education becomes implicated with human rights and, in turn, faces the spectres of its own crisis or offers reflexive opportunities for service-users/stakeholders (parents, teachers and students) to overcome the crisis. Drawing from an interpretation of my overall experience as a teacher and a researcher in the British education system, I critically assess the compatibility of the Reforming Mental Health Act (RMHA, 2021) with human rights such as choice and autonomy. For seven months, sixteen late-adolescents co-researched as part of my ethnography, which focuses on the influence of formal education on adolescents' MH. Comparing to students ages 10-11, late-adolescents showed that they are grappling with introspection (e.g., self-esteem, self-doubt) and therefore managing different layers of 'recognition', influencing their subjective wellbeing and, successively, their MH. It is essential for the RMHA briefing to influence the Mental Health Act reform and subsequently to inform educational policies, how the latter are implemented, the extent they are enforced in the hierarchical school/college structure, and how the student population perceives the policies through the school/college environment. Policy influence is multiple and intersecting with broader aspects of adolescents' educational life while transitioning to adulthood, therefore constitutive and generative of the modality of beings that recognize service users/stakeholders' views and choices.*

KEYWORDS: *Agency, Subjectivity, Education, Mental Health, Adolescents.*

Introduction: Context and Gap/s in the Reforming Mental Health Act (RMHA)

This paper is an attempt to use my Ph. D research findings to respond to the UK's Human Rights Joint Committee call for evidence on the Reforming Mental Health Act (RMHA) 2019-21. I have two connected objectives – to present my theoretical understandings of agency and subjectivity as I developed and used them in my research analysis, and

to offer three main recommendations for the RMHA by drawing from such theorisation.

I was approached by a member¹ of the ICOP (Influencing Corridors of Power), which is made of a group of academics from SOAS University of London (UK); they aim to use research to influence parliamentary legislations at various levels. In this specific instance, ICOP tried to influence the reform of the Mental Health Act 1983 (The aforementioned act was first enacted in the late 1940s). A call for evidence was issued in 2017 which focused on the human rights implications emerging from the document RMHA (January, 2021), which welcomed and took forward Sir Simon Wessely's independent review of the MH Act². Specifically, as the review pinpointed '*people with lived experiences*' (16), I problematized it by considering late adolescence MH status in the UK, the main focus of my research.

For seven months, between September 2019 and March 2020, I co-researched with sixteen 16-18 y/o the status of adolescent MH in a Sixth Form college in London, as part of my doctoral research; I looked at the influence of formal education on adolescents' MH, having piloted it piloting it in a primary school (10-11 y/o) for six weeks as part of my Master in Social Research (summer term 2018).

A short version of this paper reached Westminster via ICOP to brief members of parliament and relevant policy makers through a series of recommendations, which I repeat below. Overall, I tried to evidence that while the constant reference to 'people with lived experience' throughout the RMHA is a laudable attempt to bypass the sense of subalternity which may come with the term 'voice' of subaltern³ groups such as children, such framing risks to create an even wider gap between the abstraction of human rights and the enactment of legislation. I claim that the RMHA, amongst other things, could consider youth 'transition' within the context of education. Transition to legal adulthood (18) has proven to be crucial time that determines adolescents' MH for the years to come. By considering the notion of 'subjectivity' as a modality of being in the world through resistance, then I concur with Judith Butler who claimed, amongst others, that agency/autonomy is the precondition of subjectivity (fully explained later). Such positioning could inform educational policy-making that safeguards adolescents in transition to adulthood, favouring both short and long-term MH benefits.

¹ Rana Osman, policy/research assistant at ICOP, 2nd year Ph.D student at SOAS, University of London (UK)

² Firstly, my recommendations reached, as a form of 'brief', a committee made up of certain Members of Parliament and peers who were working on changing a law. Secondly, all MPs and peers had access to my brief for a wider interest, for those who were not directly involved in making or changing a law, but they could vote in a way that was informed by my brief.

³ I borrow the term from Gramsci (and Spivak) to stress the degrees of 'inferiority' in ranking conveyed by the concept; I do not have space to explain and apply the term to do justice to its complexity.

1. The research: addressing adolescent MH

Multifaceted aspects contribute towards a young person's MH, confirmed through my research's literature review, a pilot study, and witnessed in my long-term career as a secondary school teacher. Some of these aspects include the inevitable pressure of high-stake examinations in a questionably meritocratic system (Reay, 2018), and the pressure to be 'in transition' to adulthood with increased responsibilities for one's own future. Additionally, socio-economic factors that often relate to raced, classed and gendered claims of oppression are rarely considered in educational policy making.

Adolescent MH operates under economic rationalities that place attainment and achievement alongside what «constitutes a governable form of subjectivity» (Lorenzini, 2018, 254); yet, as Humphrey (2018, 8) notes, the public's financial costs of educational attainment at the expense of students' mental ill-health need a justification.

This means that by weighing up the public health costs of adolescent MH under the strain of relentless performance indicators and what is done down the line in the school/college environment, numbers just do not add up. The pressures that come with subject choices and performance at GCSE, A-level and university often overwhelm students (especially from middle/lower class); unless there are vested interests to keep and have people medicalized throughout their lives, there is an intrinsic contradiction with some of the evidence about adolescent MH and what is done at school/college level, to mitigate mental ill-health through suspicious interventions related to school performance. Education seems more oriented towards selection, certification and specialization rather than a holistic formation of the child.

Data collected hitherto corroborated the above issues and indicated that participants (teachers, parents and school leaders) in the college-environment⁴ were caught in an administrative vs pedagogical trap interwoven with relationship expectations. A seemingly existential malaise across participants prevailed, as shown by: i) students' lack of motivation, both in and outside the college; ii) teachers' struggle to balance out curriculum demands and more progressive pedagogy which did not include measurements *per se*; iii) parental anxiety to secure their children's positive MH while grappling with more pragmatic choices to secure an employable future for their children; iv) uncertainty around relationship maintenance and development.

⁴ The school/college-environment, which includes not only the physical structure of school but also the processes and policies sustaining it, has a direct impact on MH (Bonnell et al., 2013ab), because of the internalization of expectations that emerge from a competitive culture in schools (Ball, 2017; Wilkins, 2012ab, 2016), parental expectations and peer-pressure.

These points echo my pilot study's findings in the primary school; however, considering them in Ericksonian⁵ terms, the implications are different between 10-11 y/o (the pilot) and 16-18 y/o (current PhD). Comparing to students ages 10-11, who are still risk-takers within the classroom, seek autonomy, or display less self-conscious traits (Smith, M., 2018), late-adolescents showed that they are grappling with introspection (e.g., self-esteem, self-doubt) and therefore managing different layers of 'recognition' (personal, private, public – Honneth, 2003) influencing their subjective wellbeing and, successively, their MH. Therefore, risk-taking gets inhibited, and so is the intrinsic motivation (Smith, 2018).

Additionally, academically, the pressure of subject choices at A-Level and university—in less than two years—requires late-adolescents to make life lasting selections between vocation and employability, all while external conflicts mount up, and intrinsic motivations are left unexplored at the expense of positive MH. Our research shows that students associated their poor MH with their lack of intrinsic motivations for their current subjects and an unidentifiable university/career. This suggests that intrinsic motivations are more likely to sustain students' positive MH because their voice, choice and autonomy (agency) would be actively implicated, as opposed to extrinsic motivational factors (i.e. pleasing others) which did not seem to have the same positive effect.

To sum up, while college life and learning opportunities were valued by all student-participants, on reflection, a sense of disappointment remained and could be felt through the interview narratives and accounts, associated with the influence of the schooling journey on their selves.

2. Thinking through adolescent subjectivity and agency.

Butler and Hacking (developed below) help us theorize, and more importantly 'see', a subject that is produced but also stimulated to generate the (field of) possibilities for a viable existence, an individual able to function individually and collectively; Blackman et al (2008, pp.6-7) propose that this view is a departure from an over-determinist notion of 'subjection' (Althusser's) to a more dynamic 'subjectivation' (Foucault, 1982) – which, I argue, even though it is still a byproduct of self-surveillance and technologies of the self, it challenges the unilaterality of subjection. Therefore, I draw on Rose (2014) and Rose and Lentzos' (2017) use of Foucault's view of resistance, to move the theoretical plane towards a conceptualization of subjectivity that gives equal weight to 'vulnerability' or that which moves the individual to turn the back against those powers that tend to control people, where resilience and

⁵ Child Development Institute (2020), <https://childdevelopmentinfo.com/child-development/erickson/#gs.5r1cl6> (accessed in December 2019).

vulnerability acquire new significances as forms of resistance. Even though I do not have space to fully elaborate, inspired by Butler et al (2016), the 'vulnerable' subject does NOT stand against the 'resilient' subject, binarily, as the one that 'drowns' under the school-college environment pressure, that 'slips through the net', that has to accept 'the nature of the (education) beast' (expressions I learned in my school office from my managers), but one that stands firmly on its own as a mode of resistance.

As for agency, a dictionary definition refers it to «the capacity for an actor to act in a given moment». I employed this basic formulation to theorize primary school children's call for increased autonomy to improve their well-being in the exam-focused environment. This is theoretically backed up by stage 4 and 5 of Erikson's stage of psychosocial development. My 11 years old participants clearly stated a 'need' to show off their confidence and competence (stage 4) which blended with stage 5, when Autonomy and Identity are central, according to Erickson, to their development and Identity, an Identity which, I claim, is explicitly focused on the interpersonal, including a wide range of labels, from people as role model to slogans. Other definitions of Agency help ensure I did justice to the 'emerging and constructed'⁶ data from the field. For example:

- A psycho-philosophical definition, from Bruner, relates Agency to Selfhood: «the sense that one can initiate and carry out activities on one's own» (1996, 35) – that is, by and large, to be an agentic-self.
- A sociological definition, from Jenkins, relates and to a certain extent subordinates Agency to Structure «Agency involves an individual 'engaging' with social institutions/structures, and is likely determined by it» (1992). Basically, a Marxist/Durkheimian inspired definition.
- A psychological definition, from Bandura, relates Agency to a 'concern', contrasting the level of reactivity an agentic-self may possess VS the ability to initiate or produce results of one own choosing (1999).

These definitions blend well with Butler's elaboration of the notion of subjectivity as discussed in Foucault's earlier and later writings, when the subject was initially seen as the effect of power/surveillance while his later work turned towards the ethical self and its relation to freedom (Infinito, 2003; Atasay, 2014); Butler argued, «the constituted character of the subject is the very precondition of its agency» (1995b, 46). Because the subject is constituted continually in relation to discourse, this «implies

⁶ I am aware that emergence is a disputed concept, and I agree with Braun and Clarke (2006, 2020) that there is no such a thing in qualitative analysis, only 'constructions'. However, I do not want to omit it altogether to do justice to the richness of data in/from the field that inspired such constructions.

that it is open to formations that are not fully constrained in advance'» (Butler, 1995, 135).

Butler offers both an elucidation and a useful concept to resist the negative association of subjectivity with subjection (or subjugation) in the school/college-environment: the 'double subject'. This concept is well explained by Davies' application in a school setting (Butler, 1997) which shows how governmental education policies construct, or favour, the 'double subject'; one that is both the *master* of certain practices within schools and one that *submits* to those same practices (e.g. pedagogy, sitting exams, getting rewards, managing punishment, hidden curriculum, etc.). Such a consideration gets richer in significance when combined with Hacking's 'looping effect' in the classification of people, which refers to «the way in which classification may interact with the people classified [...] the classified people enhance and adjust what is true of them» (Hacking, 2007, 286-289).

Applying these concepts to the data collected so far indicated that most students navigate the education system in both directions, as masters and 'subject to', which blurs the lines between defeat and victorious attitudes and open up new spaces for 'vulnerable' or at risk students. Butler's double-subject and Hacking's looping-effect acquire analytical importance because they could inform policy to support those adolescents who must, necessarily at one and the same time, be master of certain literacy practices, and submit to these practices to undertake this simultaneous mastery/submission role. I suggest that this process of Subjectivation is not nurtured or formally promoted in schools/colleges and could come useful in 'transition' practices, to mitigate the pressure of university and career choice that seem to put young people's MH at risk.

3. Relevant findings and recommendations.

3.1. 1st recommendation

Point N2 of the RMHA (p. 124) proposes four new principles driving the reform for a more dignified provision for MH patients: 1) choice and autonomy, 2) least restrictions, 3) therapeutic benefits, and 4) the person as an individual. In relation to these four points, my research findings emphasise that students are in 'transition' to adulthood and have little 'choice and autonomy' in their experiences of compulsory schooling apart from tokenistic experiences through 'student voice' and/or school council actions. Most strikingly, my research suggests that by the age of 16-17 subject choices compression in the space of two years (GCSE and A-level), combined with the expectation to choose one University subject leading to a long-term career (confused with short-term employability), generates unrealistic expectations to live up to and which remove 'choice and autonomy' as viable children rights. My research confirmed that it is at such crucial time that 'choice and autonomy' are

systematically impaired by the school/college-environment as well as external factors comprising parent-child relationships, contributing to deteriorating MH.

This is shown, for example, by the lack of students' consultation by the government in educational reforms (see most recent reforms since 2013, ex-minister of education M. Gove's reforms as a response to OECD/PISA requirements), which include, amongst many others, the elimination of the statutory Citizenship education, and an express distinction between 'hard and soft' subjects, which sifts-and-sorts students accordingly to maintain the status quo.

For example, students' sense of loss when discussing viable university subject options (for both themselves and parents) was palpable throughout my research. Therefore, a starting 1st recommendation for the RMHA Joint Committee is to fully acknowledge uncertain epochal changes which have occurred since the 1983 MHA (e.g. increased migration, Brexit, terrorism on a global scale, globalization, climate change etc.) and provide school/colleges service-users/stakeholders with a more progressive and holistic vision of education, formative and appreciative of diverse 'modalities of being' (i.e. subjectivities), that equally contribute to our collective existence, instead of conceiving students as always 'lacking' learners that have to be 'optimized' (Atasay, 2014), in the eyes of the education system. My research showed that several students associated their poor mental health with lack of personal motivation for their current A-Level subjects and an unidentifiable university/career. This suggests that personal motivation is more likely to sustain students' positive mental health because students' voice, choice, and autonomy would automatically be recognized, giving a sense of 'connection' with one self.

3.2. 2nd recommendation

My research findings, firstly, likened increased well-being to students' agentic (or autonomous) selves, and secondly, framed students' voice as the voice of *people with lived experiences* who wanted to consolidate their identities through various labels they identified with (pilot's evidence). Secondly, I explored the concept of Agency further with a new age group (late secondary or Sixth Form), a way to check similarities, differences or simply age-related 'mutations' of identity. What I deduced was that students' preoccupation with identity (i.e. WHO am I? as an inter-personal process that would start at 10-11 y/o) had evolved towards subjectivity (i.e. HOW am I? as an intra-personal process that would start later at 16 y/o +). Such a thread further implicated students' MH because it was through students' 'subjective configurations'⁷ (Gonzalo Reyes, 2009b, 218, cited in Goultard, 2019, 58) that their MH status became more visible or discernable.

⁷ Subjective configuration «is a relatively stable organization of subjective sense related to a particular event, activity, or social production».

In retrospect, student-participants in the Sixth Form dismissed the value or even the existence of Agency as a school/college possibility, pretty much in line with parents and teachers' views, somehow accounting for their lack of motivation and, plausibly, their worsening MH. This posture was based on the ground that, according to students, Agency was not exam-result friendly; however, student-participants offered alternative perspectives during interview time, showing both resignation and creativity in imagining their future 'subjectivities', another way of *doing* agency and contributing to positive MH.

A 2nd recommendation, therefore, is set on the back of my use of theories of Motivation *vis-a-vis* a dominant socio-economic model founded on profit and competition, reflecting liberal ideological values of individualism and meritocracy. In other words, my research showed that adolescents are disadvantaged by structural pressures to conform, please, aspire, achieve (i.e. extrinsic motivations), at the expense of a broader education, intrinsic motivations, and, in turn, positive MH. Policymakers should therefore place genuine emphasis on 'people with lived experience' in the RMHA by being clear about policy implementation and accountability through strategies that include students' feedback, participation, and engagement.

3.3. 3^d recommendation

Interestingly, amongst the statutory educational policies from the link provided by an official government source (gov.uk⁸), there are none that point at achievement and attainment, and yet they are the most pervasive in any school/college because they hold everyone to account. Academic research evidence suggests that the educational vision shaped by the last 30-40 years of educational policies (Ball, 2011, 2017) reflect wider economic policies, and narrowly concentrate on an input-output system which is outcome-focused, requiring measurable academic skills and aptitudes. Aptitudes that are often confused with intelligences, which are not always universal but closely linked to cultural, economic and social capitals, de-limited by class, gender and race, and therefore reflecting narrow versions of *able*-ism, self-worth and self-esteem.

Such non-universality of intelligence, I claim, engenders two discourses: one discourse invites the protective and interventionist state to exert hegemonic influence in the constitution of personhood/citizenship, engineered accordingly and responding to the demands of global forces. The other promotes socio-economic and political critiques that embrace cultural difference and provide diversifications in the globalized world, *vis-a-vis* education's role in the 21st century. Both discourses implicate adolescents' identity (social and learner – i.e. who am I?) and subjectivity processes (i.e. how am I?), taking place in key developmental stages, which are intimately related to the constitution of adolescent positive MH or, equally, mental ill-health.

⁸ <https://www.gov.uk/government/publications/statutory-policies-for-schools>

Following the pilot and the PhD's fieldwork, I construed adolescent MH in terms of its influence on adolescent subjectivity, as produced and negotiated in the school/college-environment and the policies upholding it; in other words, I thought that adolescent MH in the college-environment could be *appropriated* (embodied knowledge) by students as agentic/autonomous responses to structural constraints, which could be theorized as both acts of resistance and prevention.

The 3rd recommendation, therefore, is to promote more nuanced research that questions *the way* state education meets its official aims (e.g. students' acquisition of knowledge and skills, and the formation of responsible and active citizen – Crick report, 1998) while re-engineering citizens of the future (Gillies, 2017) on suspicious utilitarian grounds, and through a questionable 'therapeutic education' agenda (Ecclestone, Hayes, 2009).

Current governmental policies tend to devolve adolescent mental ill-health to stretched-out families, local communities, and underfunded schools/colleges, all paradoxically operating in the entrenched accountability system. Such devolution inevitably corrupts institutional practice (e.g. in schools: teaching to the test, leaders fiddling with exam data to 'save' the school and their jobs, teachers told to serve their 'client' students, etc.) and the fundamentals of an empowering and transformative education, in which individual and collective interests are not antagonized. However, we see that the state still *regulates* education by expecting adolescents to be successful *no-matter-what*, more resilient and responsible citizens, in what seems an unfair exchange or conditional reciprocity.

Drawing attention to adolescence as a developmental 'opportunity' and not a menace to the adolescent, nor to society (Blakemore, 2018), we can look at it for what it is, in 'transition' to adulthood in a heavily performative economy. The increasing reference in educational policy to promote students' resilience shows that adolescent mental ill-health can be managed, differently, from the top. It is important to know which and how educational policies are implemented, the extent they are enforced in the hierarchical school/college structure, and how they are perceived by the student population in the college-environment. Their influence is multiple and intersecting with wider aspects of school/college life while in transition to adulthood, therefore, constitutive but also generative of modality of beings (i.e. subjectivities).

Conclusion

My research addressed (and used) the emergence/construction of agency and subjectivity in relation to adolescence and their significance for adolescent well-being and MH in the school/college-environment. While my pilot in a primary school linked students search for identity to their well-being through increased agency/autonomy, the current Ph. D

in a Sixth Form college (upper secondary) added extra value to agency/autonomy by linking it to subjectivity, and subjectivity to MH (i.e. through increased subjectivation processes which require 'degrees' of agency/autonomy). Put it differently, subjectivity gains analytic interest (and heuristic value) when juxtaposed to Agency of «people with lived experience» in the educational context, in transition, who come to 'know themselves' through subjectivation processes which 'require' agency/autonomy. Therefore, Subjectivity vis-a-vis Agency come useful for policy making to inform the day to day of schooling (pedagogy, curriculum, subject engagement and choices, careers, etc.), and, simultaneously, reduce the constrains set by policies.

The RMHA, concerned with people suffering from mental ill-health, could easily implicate the protection of human/children rights by drawing from concepts such as agency and subjectivity. This is because the reference to 'people with lived experience' in the document could be considered in practical terms for human/children rights which risk to be breached through school/college policies. Therefore, the RMHA could: 1) address the undisputed data around worsening adolescent MH in the UK when in transition to adulthood and how such transition is instrumentalized (Di Emidio, 2019) by compulsory schooling on neoliberal ideological lines; 2) free itself of rhetorical statements which invoke 'potential', 'success' or 'empowerment', because such concepts escape adolescent minds and set unrealistic expectations of adolescents in a formative period; such terminology makes those who 'lack' potential (or aspirations) at a disadvantage, at the expense of their vulnerability, sidelined as the problem, while it could constitute a developmental trait, let alone strength, to be nurtured and celebrated.

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A Study about Generativity in Intergenerational Care in Pandemic Time

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ABSTRACT: *The paper aims to present, through an educational approach, a reflection about generativity, defined as the desire to leave a positive legacy and related activities that raise outcomes for future generations (Erikson, 1950; McAdams, de St. Aubin, Logan, 1993). Sustaining the future has been identified as a key factor in the welfare of future generations and the desire to leave a positive legacy (Hauser et al., 2014) helps young adult to cope with the challenges of the transition to adulthood in contemporary life. However, interdisciplinary theoretical insight suggests that generativity as a targeted midlife task may no longer be sufficient for explaining a life course pattern of generative concerns, commitment, and actions (Kim et al., 2017). Some scholars in the symbolic-relational area interpret generativity as an essentially relational construct: the value of the relationship between the generations (Scabini, Rossi, 2012). In agreement with these studies, generativity derives from the relationship with the Other and it expresses itself in this relationship with the Other. We might consider generativity as a product of the relationship between different generations, not only of the individual him/herself. The analysis underlines how the intergenerational dimension is at the origin of family generativity (Dollahite et al., 1998) as it develops and grows thanks to the donative sources within family systems. Family generativity is a holistic concept because it is inherently familiar, intergenerational, relational and communal. It involves care for the rising generation on the part of the previous generations, including the grandparent generation, not simply as individuals but also as the extended family group that makes up the «older generation». The discussion points out emerging educational needs not only related to young people, but also to adults; today there is a priority to educate adults to take and rewrite their generative role in an intergenerational exchange that cannot and must not be interrupted, but that has to turn into a current, social, cultural and economic scenario linked to the pandemic.*

KEYWORDS: *Generativity, Young adults, Intergenerational relationships, Family generativity, Adult education*

Keywords:

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Originally generativity was introduced in psychology as a midlife development task, for Erikson (1950, 231), «Generativity is primarily the interest in establishing and guiding the next generation or whatever in a given case may become the absorbing object of a parental kind of responsibility». In particular, for Erikson, generativity refers to adulthood and at this stage of life we are what we generate. Where this enrichment fails, there is a regression from generativity to an obsessive need for pseudo-intimacy; this is punctuated by moments of mutual repulsion, often with a pervading sense of individual *stagnation* and interpersonal impoverishment.

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Erctn'ncpf 'Ctpqr' "422: +f kuewuugf "o wnr rg" xctkvgu" qh' vj g" eqpegr v'cpf " tclugf "vj g" r quuldrkx' "vj cv' i gpgtcvxxkx' "o ki j v' dg" cp" wo dtgnc" eqpegr v' hqt" xctkvwu" dgj cxlqtu" vj cv' j cxg" eqpvtkdwwkqpu" vq" j wo cp" y gmdgkpi 0' Vj wu. " vj g" eqpegr v' qh' i gpgtcvxxkx' "j cu" gxqrxgf "kp" vq" c" o wej "dtqcf gt" apg" vj cv' ku" pqv'vkgf "erugrf "vq" o kf f rg" cf wvj qqf " *Mo . Ej gg" cpf l gtj ctv. "4239. "4+0' Mqvtg" *3; : 6+ "uwi i guvgf "vj cv' vj gtg" ctg" o wnr rg" v' r gu" qh' i gpgtcvxxkx' "vj cv' o cp' kguv' vj go ugrxgu" cv' f khtgtgpv' vko gu" qh' rhtg. "tguvnrkpi "kp" cp" gzr cpukap" qh' vj g" f ghtkvwkq" qh' i gpgtcvxxkx' 0'

O qtgqxgt. " hqt" Ugy ctv' cpf " Xcpf gy cvgt" *3; ; : + " vj g" eqpegr v' qh' i gpgtcvxxkx' . "cu" k' j cu" dggp" f guetldgf "cpf " uwwf kgf . "f aggu" pqv' eqpulk' gt" i gpgtcvxxkx' cpf "i gpf gt" f khtgtgpegu0' Hqt" gzco r rg. "vj gtg" o c{ "dg" o qtg" uwdvrg" f khtgtgpegu" kp" i gpgtcvxxkx' "dgw" ggp" vj ku" i gpgtcvxxkx' cpf "qvj gtu" qt" dgw" ggp" o gp" cpf "y qo gp0' Uqo g' uwwf kgu" tqwrf "vj cv' hqto u" qh' i gpgtcvxxkx' " tgcrl' cvkq" ctg" j ki j gt' kp' y qo gp" vj cp" kp" o gp. "vj cv' o gp" uqo gvko gu' f ger' kpg" kp" i gpgtcvxxkx' " tgcrl' cvkq" kp" o kf f rg" ci g. " cpf " vj cv' { qwpi gt" r gqr rg" i gpgtcvxxkx' "uj" qy gf " o qtg" ej cpi g" kp" i gpgtcvxxkx' " tgcrl' cvkq" vj cp" qrf gt" r gqr rg" *O ce/ F gto kf "gv' cr0" 3; ; : +0

Ugy ctv' cpf "Xcpf gty cvgt" *3; ; : + "uwwf kgf "c" uco r rg" qh' f qwpi gt" r gqr rg" kp" y j qo "r qh' lecr'ncvxxkx' "qt" uqelcni r tqvguv' y cu" c" r tqo kpgpv' hgcwvtg" qh' r'cvg" cf qrguegpeg" cpf "gctrf "cf wvj qqf 0' Rgtj cr u" vj qug" i gpgtcvxxkx' y kj "hgy" gt" uqelcni / kpxqrxgf " { qwpi " r gqr rg" hqto " vj gk" i gpgtcvxxkx' f guktgu" r'cvgt" qt" o qtg" eqpukvugpvrf "kp" r tkxcvg" rhtg0' Hqt" vj ku" tgcuaqp. "vj gug" uej qrcetu" uwi i guv' vj cv' i gpgtcvxxkx' "o c{ "dg" ugr ctcvfg "kp" vq" f khtgtgpv' grgo gpw" cpf "vj g{ "cnuq" ur gewrcvg" vj cv' f khtgtgpv' grgo gpw" f qo kpcvg" kp" f khtgtgpv' r gtlqf u" qh' rhtg0' kpf ggf. "vj g{ "vj kpr'vj cv i gpgtcvxxkx' "f aggu" pqv' qtki kpcvg" kp" o kf / rhtg. "dww' dghqtg. "dgi kppkpi "vq" dg" r tgugpv' kp' vj g' uuci g' qh' vj g' eqpvtvewkq" qh' kf gpv' kx' " cpf "kp" vj g' uuci g' qh' kp' vko ce{. "dghqtg" cf wvj qqf 0' k' r ctvewrcet. "vj g{ "j cxg" j { r qvj guk' gf "c" o qf gr' qh' vj g" eqvtug" qh' i gpgtcvxxkx' < gctrf " cf wvj qqf " kperwf gu" vj g' hqto wrcvq" qh' i gpgtcvxxkx' "i qcnu" qt' f guktgu= o kf / rhtg' kperwf gu" vj g' uwdlgevxxg" gzr gtlgpeg" qh' vj g' ecr cekx' "vq" dg" i gpgtcvxxkx' . y j gtgcu" r'cvgt" cf wvj qqf "kperwf gu" c" ugpug" qh' ucukv' r'cvkq" kp" i gpgtcvxxkx' "cee" qo r rkuj o gpv0'

Vj g" o kf rhtg" gzr gtlgpeg" qh' i gpgtcvxxkx' "o c{ "dg" wughwrf "f khtgtgpv' cvfg" " cu" kperwf kpi "dqvj "cp" kpetgcugf "ugpug" qh' g' h' cece{ "cpf "c" xkulq" qh' apgugr' h' cu" j cxkpi "o cf g' eqpvtkdwwkqpu" vq" c" y kf gt' eqo o wpkx' " *Ugy ctv. "Xcpf gty cvgt. " 3; ; : . " ; 6+0' Vj wu. "vj g" cwj qtu" f kulkpi vkuj "dgw" ggp" c" i gpgtcvxxkx' "f guktg."

uwlgevxg" gzer gtlgpegu" qh' i gpgtcvxg" ecr cekl " cpf " i gpgtcvxkl " ceeqo r rukj o gpv' Ugr ctcvki " vj g" grgo gpv" qh' i gpgtcvxkl " kp" vj ku"y c{ " y qwr' "uwi i guv'v cv' i gpgtcvxkl "o c{ "j cxg"ku'r gtlqf "qh' cuegpf cpeg "kp" o kf f rg"ci g"kp"vj g"tqto "qhc"tgn'ecr cekl ."k'ku'xkcnf "r tgugpv'kp"vj g"tqto "qh' f guktg" kp" gctrf " cf wvj qqf " cpf " qh' gswcmf " etwelcn' ko r qtcpeg" cu" cp" ceeqo r rukj o gpv'kp"qrf "ci g "xk"; 7+0Vj wu."vj g"eqpegr v'qhf gpgtcvxkl "j cu" gxqrgf "kpq" c" o wej " dtqcf gt" qpg."y j lej "ku"pqv' v'kf "erugrf "vq" o kf f rg" cf wvj qqf 0

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Vj ku" f gh'k'k'qp" tgr tgugpv" ko r tqxgo gpv' qxgt" gz'k'k'pi "qpgu" hqt" ugxgcn' tgcuqpu'0 H'kuv." k' ceeqwp'u" hqt" cn'f gxgrqr o gpv'cn' uci gu." o wnr' rg" ci g" i tqwr u"cpf "eqj qtu."cpf "f k'gtug" gzer gtlgpegu"qh'i gpgtcvxkl 0Vj g"qdlgev' qh' i gpgtcvxkl " kp" vj g" tgxkgf " f gh'k'k'qp" ku" pqv' uko r r'f " vj g" hwwtg" i gpgtcv'qp'u'0Ugeqpf ."vj gkt"r tqr qugf "f gh'k'k'qp"cuuwo gu'v' g'r quuk'k'k' "qh' eqpv'k'w'q'w'f gxgrqr o gpv'cpf "i tqy vj "qxgt"vj g"r'kg"eqwtug'0Ceeqtf kpi "vq" r tci o cv'uo "cu'y gm'cu'V'qvtg)u"*3; : 6+ci gpv'e'b qv'xgu."i gpgtcvxkl "uj qwr' " dg"ej ctcevgt'kf gf "d{ "i tqy vj "tcv' gt"vj cp"cp"cwgo r v'vq"tgo gf { "vj g"r'cf kpi " ugrh"Mo "gv'cr0"4239."9+0

40Vj g'vtcpuk'k'qp"vq"cf wvj qqf "cpf "tco k'f "i gpgtcvxkl "kp"r cpf go le'vo g

Bellah and colleagues (1991) state that generativity is shaped by, and expressed through, cultural norms, social movements, societal institutions and public policy; their work shows that generativity is strongly shaped within the family context. It is from this context that it can draw vitality for its growth, or find a position for its transformation into stagnation (i.e. the opposite of generativity).

Vj g'tco k'f "tgr'v'qp'cn'k'pv'gti gpgtcv'qp'cn'br r tqcej "Eki qrk"Uecd'k'k'4228+" r tqr qugu"cp'cn' uku"qh' vj g"y c{ "kp"y j lej "tco k'kgu"vcem'g"vj g'vtcpuk'k'qp"vq"

cf wnj qqf =vj ku'ku'pqv'qprf "cp"gzr tguukqp"qh'c'i gpgtcv'xg'r ctgprv'qthur tkpi " dqp . "dw'cp"gzr tguukqp"qh'c" i gpgtcv'xg"hc krf "erko cvg "y j lej "hquvgtu" vj g'vtcpuk'kqp"qh'v'j ku'ugpug."i gpgtcv'xk'k' "ku'pqv'qprf "cp"kp'k'k'f wcr'r ctgprv'c'r ej ctcevgtk'v'k'." dw' c" hc krf " i gpgtcv'xg" r tqeguu" y j lej " uvv'ckpu" vj g' vtcpuk'kqp"qh'v'j g'q'wpi "vq"cf wnj qqf O'Htqo "vj ku'v'j gqtg'v'ec'r' gtur gev'xg." vj g'f gh'p'k'k'qp"qh'i gpgtcv'xk'k' "ku'er'ugr' "eqppgevgf "y kj "vj g'f gh'p'k'k'qp"qh' hc krf "Uecdk'k'3; ; 7+0' k'v'j ku'ugpug."

generativity is not only a family process during the transition to adulthood, but also during other family transitions [...]. Generativity is therefore a psychological and social process: society needs adults to assume their own responsibilities towards successive generations as parents, mentors and employers. Through these actions young people increase their sense of identity and personal integrity (Marta et al., 2012, 148-150).

Kf q'ci tgg'y kj 'vj gug'uwf kgu'cpf "egt'v'k'p'r' 'vj kpn'vj cv'i gpgtcv'xk'k' "ku<

a human motivational source which derives from the relationship with the Other and that expresses itself in the relationship with the Other: care for the Other, trust in the relationship and respect for the «specificity» of the Other are the main characteristics. We can consider generativity as a product of the relationship between different generations [...]. Looking at generativity from a relational point of view also means not conceiving of it as a characteristic exclusive to adults: it is something that is received and given, something that others have passed on to us and that we, in turn, will pass on, after giving it our own imprint. Generativity reaches its peak in maturity, but it is already a crucial individual variable in the phase of emerging adulthood. [...] Given the centrality of the concept of generativity in the life of people, surprisingly little research has investigated generativity in a family with young-adults. [...] We argue that generativity is the purpose and the intrinsic aspect of the family organization, which includes different persons, various relationships and one group (ivi, 150-151).

In particular, Marta, Lanz and Tagliabue (2012) speak about a model of family generative climate. For them, there are three levels of generativity: individual, family and relational. The individual level constitutes generative concern for the other; the family level implies an inter-generational exchange of what is important (i.e. values) and satisfaction with one's own family (cognitive-affective variable); the relational level represents care of the bond between parents and offspring, and implies the parents' fostering of autonomy in the younger generation. The three levels together provide the family generative atmosphere that enables the offspring to make the transition to adulthood.

Generativity, in terms of a family climate, is also seen as a process, in which the three generativity components (i.e. creating, caring, letting go) are considered as three steps of the family process.

and narratives with regard to the members of the older generation, individually and collectively, in helping the younger generation to deal with their lives in a changing world.

In modern contemporary society, transitions are characterized more and more often as being individual, completely indefinite, reversible, minimally ritualized and with abundant possibility of choice. This is what strongly characterizes the transition to adulthood today in Italy (and not only). This temporal extension is producing a protraction of adolescence, and is leading to a new phase in the life-cycle called young adulthood (Sherrod et al., 1993) or emerging adulthood (Arnett, 2007).

The transition to adulthood also takes place within the family of origin, or is subject to the family of origin for positive results. In other words, the transition to adulthood is a «joint enterprise» between parents and young adults (Youniss, 1983; Scabini, 1995).

Especially in the Italian context, young adults do not leave the parental home until late; the transition to adulthood takes place within the family context, not outside (Caprara et al., 2003; Scabini et al., 2006). Family relationships are formed during the young adult's developmental phase; in this way the family confronts its own developmental phase. Certain authors call this the young adults' ongoing family (Scabini, Cigoli, 1997). The relational family processes, with which young adults and their parents have to cope in this transition, have been studied as a generativity process (Peterson, 2006; Pratt et al., 2008).

The time of the pandemic has caused dramatic changes for social and family systems and young people seem to have paid the highest price in terms of growth opportunities. However the pandemic has shown us that the ability to be resilient is based on social and family generativity (i.e. many at the forefront of the fight against the virus have put their lives at risk every day to save patients or to allow the minimum necessary functioning of our economic and social systems; the shock of the pandemic has made us *space poor*: shut up in our homes, but much richer in time spent on family relationships) (Università Cattolica del Sacro Cuore, 2020).

The idea proposed in this paper is that it is necessary to begin from an education geared towards generativity for adults, so that they might be able to accompany young people in the transition to adulthood, whilst handing down a new legacy (Bellingreri, 2019).

My research experiences about parent training (D'Addelfio, Vinciguerra, 2021a; D'Addelfio, Vinciguerra, 2021b; Vinciguerra, 2019; Vinciguerra, 2015) talk of a need to rediscover ethical aspects as well as affective ones in the education of young people. In particular, I am referring to the transmission of meanings and values from one generation to the next, to a concrete commitment towards an educational legacy that can translate into the ability of young people to learn to inhabit the world (Bellingreri, 2015), to attribute meaning to their own history and life within the current social, cultural and economic scenario linked to the pandemic.

Following the line of an educational approach to studying generativity, means handing down a legacy to our heirs with an appeal that they to keep renewing this legacy. Being generative is not to be understood as biologically generating, but being able to create, care and let go, not only in the sense of leaving one's family home of origin but, above all, in the sense of leaving the young-adult the necessary space to rework what is handed down to him/her (ibidem).

3. Conclusion: Why and how to educate for generativity?

Vq'eqperwf g.'k'ku'pgeguuct{ 'vq'f q'kpq'f gr vj 'cu'vq'y j { 'cpf 'j' qy 'vq'gf wecvq' hqt'i gpgtcvkk{ 00pg'cpuy gt'eqwrf 'dg'vj cv'ukpeg"

the moral dimension of family generativity suggests that, in spite of the transcendent connection most adults feel to the next generation, the degree of adult-oriented, hedonistic expressive individualism present in Western cultural norms and practices results in the need for reminders of the adults' generative responsibility (Dollahite et al., 1998, 472-473).

O qtgqxt.'vj g'ngtcwtg'vq'y j lej 'y g'j cxg'tghgttgf .uj qy u'wu'ergctr{ 'vj cv' i gpgtcvkk{ 'cu'c'hc0 kr{ 'f lo gpukqp'ecppqv'dg'c'pgi rgevgf 'f lo gpukqp'kp' uwr r qt'v'pi 'r ctgpv'pi 'cpf 'cf wv'gf wecvq'p'p'i gpgtcvkk{ 'r'v'q'h'gf wecvq'p'p'i vtck'p'pi 'vgpf u'vq'r tqr qug'cpf 't'q'v'gf'i gpgtcvkk{ 'cu'c'uqwtg'q'h'hc0 kr{ 'cpf ' uqel'crly gmidg'p'i .cu'ht'gzco r r'g.'gf wecvq'p'p'i'eqw'pug'p'i .r ctgpv'vtck'p'pi " qt"uq/ec'ngf "r ctgpv'p'uej qqr" *O cti k'q'w. "\ co d'k'pej k"4235="Rcvk"4236=" O k'cpk"423: +0'

These kinds of educational approaches today have the aim of supporting parenting, and of course they cannot disregard the concept of generativity, because the studies we have mentioned, have shown us how a functional family system is based on intergenerational transmission and exchange between family and social systems.

In these approaches, the concepts of empowerment and enrichment are also very important (Simeone, 2021; lafrate, Rosnati, 2007); They refer to the possibility of fostering and reinforcing the resources already present in the family system, so that each of its members can find strategies to face the challenges of developmental tasks.

The educator and members of families work together to facilitate and foster empowerment, to develop generative capabilities, both the manifest and hidden strengths they already possess and new strengths that may develop during the course of training. In addition, parents' schools have a strong focus on group work. Groups of families with similar characteristics (such as the age of children), should come together to discuss the educational problems that they encounter with their children and try to exchange ideas regarding the most appropriate educational styles for a fruitful exchange between generations. In this case, the educator has the function of facilitator; he must facilitate and guide these groups of discussion and training, without pre-prepared

briefing, and with the aim of giving space to the resources that come from the families themselves.

Finally, this comparison between families also activates the creation of informal family relationships that can create a network in the community, also once the training is over.

These choices are usually not easy, and it is also possible for caring adults to allow the significant and changing needs of the young to receive less attention than they deserve and that family members would like to provide. However, we believe that, given awareness and efforts through adult education, these failings can also be significantly overcome.

Although this approach does not deny the reality of deficiency and weakness, it does not emphasize the correction of these deficits and weaknesses as the focus of educational training. Rather, it attempts to discover and develop the actual strengths that people and families bring to training.

When people and families come for counseling, they have likely forgotten some things they once knew or neglected to do some things they can do and have done before [...]. Generative counselors believe that people have the capacity to «generate» constructive relationships as well as to care about «generational» issues (Dollahite et al., 1998, 467).

The focus is on what is positively happening in these areas and how to develop those capabilities, instead of on what is not happening or how to eliminate deficiencies.

In conclusion, caring for the next generation is ultimately a *choice* that family members make, separately and together. Family generativity is an agentic concept because family members are able to choose whether to be generative in their overall family life orientation, and also with regard to individual daily actions. There is a need to educate towards generativity, but this is not a spontaneous process; it is a process that adult education must continue to foster.

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 Community.*"O krcpq."HtcpeqCpi grtk0
- Fqnc'j kg" F 0' "Urk'g" D'F 0' cpf " J cy n'p'u" C'L 0' *3; ; : +." Hco k'f " I gpgtcv'k'k' "
 c'p'f " I gpgtcv'k'g" Eqw'pug'rk'p' i < J gr' k'p' " Hco k'rgu" M'ggr " H'ck'j " Y k'j " Vj g" P g'z v'
 I gpgtcv'k'q . " k'p" F 0' O e'c'f co u" c'p'f " G0' f g" U0' C'wd'k'p." *gf u0' " *3; ; : +."
*Generativity and adult development. How and why we care for the next
 generation.* Y cu'j k'p' v'q'p. "F 0' . "Co g't'k'ec'p" Ru'f e'j q'r'q' i k'ec'n' C'u'q'ek'v'k'q'p. "r r 0'
 66; /6: 30
- Gt'k'nu'q'p. "G0' 0' *3; 72+." *Childhood and society.* "P gy [q'tm' P q'tv'q'p 0'
- Gt'k'nu'q'p. "G0' 0' "Gt'k'nu'q'p. "L0' 0' c'p'f " M'x'p'lem" J 0' 0' *3; ; : 8+." *Vital involvement in
 old Age* 0' P gy [q'tm' P q'tv'q'p 0'
- J cw'ugt. " Q'0'0' T'c'p'f . " F 0' 0' R'g'f u'c'n'j q'x'k'ej . " C0' c'p'f " P q'y c'n' O 0'0' *4236+."
 Eq'r'g't'c'v'k'p' i 'y k'j " Vj g" h'w'wt'g . "*Nature,*"733, *972: + "442 4450
- K'ht'cv'g. " T0' c'p'f " T'q'up'c'v'k' T0' *4229+." *Riconoscersi genitori. I percorsi di
 promozione e arricchimento del legame genitoriale.* Vt'g'p'v'q'."Gt'k'nu'q'p 0'
- M'q't'g. "L0' 0' *3; ; : 6+." *Outliving the self: Generativity and the interpretation
 of lives.* "D'c'n'k'o q't'g. "L'q'j p'u" J q'r n'p'u" W'p'k'xgtuk' "Rt'g'u'0
- M'o . " U0' E'j g'g. " M'0' 0' c'p'f " I g't'j c't'v. " Q0' *4239+ T'g'f g'h'k'p'p' i gpgtcv'k'k' <
 Vj t'q'w' i j "H'g" e'q'w't'ug" c'p'f " r' t'c' i o c'v'k'u'v'g'p'ug'u . *Sociology Compass,* 33, 3/
 340
- O c'e'f'g't'o k'f . " U0' " H't'c'p'j . " E0'G0' c'p'f " F g" T'g'w'u. " N0' *3; ; : +." C'f w'n' e'j c't'c'ev'g't' <
 C'i g'p'e'f . " e'q'o o w'p'k'q'p. " k'p'k'j j v. " c'p'f " Vj g" g'z r t'g'u'k'q'p" q'h' i gpgtcv'k'k' " k'p"
 o k'f /r'k'g" c'f w'n'u . " k'p" C0' E'q'r'd'f . " L0' L'co g'u" c'p'f " F 0' J c't'v" *gf u0' . *Competence
 and character through life,* E'j k'ec' i q. " W'p'k'xgtuk' " q'h' E'j k'ec' i q" R't'g'u'u. "r r 0'
 427 44; 0
- O c't'i k'q'w'c. " W0' c'p'f " \ co d'k'c'p'ej k" G0' *4235+." T'g'h'g'z k'g" c'r r t'q'cej " cu" c"
 o g'c'u'w't'g' q'h'r c't'g'p'v'k'p' i 'u'w' r q't'v , *Formazione and Insegnamento.* 'x'q'r 0'Z'K"
 37/470
- O c't'v'c. " G0' " N'c'p'j . " O 0' c'p'f " V'c'i r'c'd'w'g. " U0' *4234+." Vj g' V't'c'p'uk'k'q'p " v'q" C'f w'n'j q'q'f "
 c'p'f " I gpgtcv'k'k' < c" H'co k'f " I gpgtcv'k'g" E'r'k'o c'v'g . " k'p" G0' U'ecd'k'p'k' c'p'f " I 0'
 T'q'u'k' *gf u0' 0' *Family Transitions and Families in Transition,* O krcpq. Xkc"
 g" R'g'p'uk'gt'q. "r r 0' 369/37; 0

- O eCf co u." F 00' *4223+." I gpgtcvxxkx "kp" o kf rhtg . "kp" O 0' Ncej o cp" *gf 0: " *Handbook of midlife development.* "P gy [qtmY krgx . "r r 05; 7/6650
- O eCf co u." F 00' cpf "f g" U0' Cwdkp. "G0" *3; ; 4+." C "vj gqt { "qh'i gpgtcvxxkx "cpf" "ku" cuuguuo gpv' vj tqwi j " ugh/tgr qtv." dgj cxkqtcr' cev. " cpf " ptttcvxxg" vj go gu" kp" cwqdlqi tcr j { . " *Journal of Personality and Social Psychology.* "84."3225/32370
- O eCf co u." F 00' "f g" U0' Cwdkp. "G0" cpf "Nqi cp." T0N0' *3; ; 5+." I gpgtcvxxkx " co qpi { qwpi . "o kf rhtg. "cpf "qrf gt" cf wvu . *Psychology and Aging.* " , *4+." 443 4520
- O krcpk" *423: +." *Educazione e famiglie. Ricerche e nuove pratiche per la genitorialità.* "Tqo c. 'Ectqeek0
- Rcvk "N0" *gf u0" *4236+." *Pedagogia della famiglia.* "Dtguek. "Nc" "Uewqr0
- Rvgtuqp. "D0G0" *4228+." I gpgtcvxxkx "cpf" "uueguuhw'r ctgpkpi <Cp" cpcr' uku" qh' qwpi "cf wv" qweqo gu . " *Journal of Personality.* "96."5/3: 0
- Rvgtuqp. "D0G0" cpf "Ugy ctv." C0L0' *3; ; 8+." Cpvggef gpv" cpf "eqpvz w" hqt" i gpgtcvxxkx "o qvxxcvkp" cv'o kf rhtg . " *Psychology and aging.* "33." *3+." 43/ 550
- Rtcw. " O 0" P qttku. " L0" J gddrgvj y ckg. " U0' cpf " Ctpqrf. " O 0N0' *422: +." Kpvgti gpgtcvxxkx "vcuo kuukp" qh' xcwvgu' Hco kf " i gpgtcvxxkx " cpf " cf qrguegpw" ptttcvxxgu" qh' r ctgpk' cpf " i tcpf r ctgpk' xcwv" vgej kpi . " *Journal of Personality.* "98."393/3; : 0
- Uecdtkp" G0' *3; ; 7+." *Psicologia sociale della famiglia.* "Vqtkpq. " DqncvK' Dqtkpi j kgtk0
- Uecdtkp" G0' cpf " Eki qrk" X0' *3; ; 9+." Hco ki rhtg" eqp" i kqxcpk' cf wvkk' wv" tcnrpkco gpvq" gxqrvxxq" q" wpc" kpvgtt' kqpg" pgn' r cuuci i kq" kpvgti gpgtc' kqpcrgA . " kp" G0' Uecdtkp' cpf " I 0' Tquuk' *gf u0: " *Giovani in famiglia tra autonomia e nuove dipendenze.* " O krcpq. "Xkc" g" Rgpukgtq. " r r 03; /660
- Uecdtkp" G0' O ctv. "G0' cpf "Ncp| . "O 0" *4228+." *The transition to adulthood and family relations.* "Nqpf qp. "Ru' ej qraqi { "Rtguu0
- Uecdtkp" G0' cpf "Tquuk' I 0" *gf u0" *4234+." *Family Transitions and Families in Transition,* O krcpq. Xkc" g" Rgpukgtq0
- Uj gttqf . "N0" J ci i gtv. "T0' cpf "Hgcvj gto cp" F 0' *3; ; 5+." Kpvqf wvkkp' <rcv" cf qrguegpeg" cpf "vj g" vtcpkvkkp" v" cf wvj qqf . "Lqwtpr' qh' Tgugctej "qp" Cf qrguegpeg. "5."439/4480
- Uko gqpg. " F 0' *4243+." *Il dono dell'educazione. Un nuovo patto tra le generazioni.* "Dtguek. "Uej qr00
- Upctg { . "L0" *3; ; 5+." *How fathers care for the next generation: A four-decade study.* "Eco dtkf i g. "O C. "J ctxtcf "Wpkxgtukx "Rtguu0
- Upctg { . "L0' cpf "Erctm [0" *3; ; : +." C "i gpgtcvxxg" f tco c < Uegpg" h' tqo "c" h' vj gt/ uqp" tgrvkkp' uj kr . " kp" F 00' O eCf co u" cpf " G0' f g" U0' Cwdkp" *gf u0: " *Generativity and adult development. How and why we care for the next generation.* "Y cuj kpi vqp. "F 0E. "Co gtlecp" Ru' ej qraqi kcr' Cuuqekvqp. "r r 0 67/"960
- Ugy ctv. "C0L0' cpf "Xcpf gy cvgt. "G0C0" *3; ; : +." Vj g" eqwtug" qh'i gpgtcvxxkx . "kp" F 00' O eCf co u" cpf " G0' f g" U0' Cwdkp" *gf u0: " *Generativity and adult*

development: How and why we care for the next generation,
 Y cuj kpi vqp."FÆ."Co gtlecp"Ru{ ej qri lecnCuuqekvqp."r r 097 3220'
 Xkpek wgttc."O 0*423; +." Nc"i gpgtcvkxkÂ"hc0 kctg0P wqyg"r tqur gwkyg"f K'
 uwf kq"kp"gf wec| kqpg ."Pedagogia e Vita."5."44/570
 Xkpek wgttc."O 0*4237+."L'adulto generativo. Relazioni educative e scelte
 di vita familiare."Dtguekc."Nc"Uewqr0
 [qwpkuu."L0*3; : 5+." Uqelcn'eqputwpevqp"qh'cf qrguegpv'd{ "cf qrguegpv'cpf "
 r ctgpvu 0' kp" J0' I tqvxcpv' cpf " E0' Eqqr gt" *gf u0+." Adolescent
 development in the family."Nqpf qp."Lquug{/Dcuu"Kpe0'Rwdrkuj gtu."r r 0'
 ; 5/"32; 0

International Students Mobility pre, during, and post COVID-19

International Virtual Mobility: Is It an Option for Promoting the Internationalization of Higher Education?

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ABSTRACT: *International student mobility is one of the hallmarks of the European Higher Education Area. So far it has mainly relied on traditional physical mobility (TPM). International virtual mobility (IVM) is a more recent alternative that implies an online cross-border experience where students remain in their own country while studying at their host university. IVM is a rapidly gaining importance because it allows overcoming the traditional social and financial biases usually shown by traditional programs. The aim of this work is to get an approach to the students' valuation of IVM programs –pursued and achieved objectives, problems, advantages, etc.– and their willingness to engage on them. We have surveyed a sample of over 1,000 students from the University of Oviedo (Spain) that were engaged on or nominated for an international credit mobility program during the 2018-2019 (pre-COVID-19 crisis), 2019-2020 (COVID-19 outbreak), and 2020-2021 (ongoing crisis) academic years. Overall, IVM seems to arise just as a second-best option to be considered only when TPM is not possible. The reluctance to IVM seems to be clearly due to its shortcomings in the social arena.*

KEYWORDS: *International virtual mobility, ERASMUS program, higher education.*

Introduction

International mobility is an integral part of the European HE strategy (Pouromid, 2019; Shields, 2016; Souto Otero et al., 2019; Teichler, 2004, 2009). The ERASMUS program is the most popular scheme for student credit mobility at the European level. So far it has relied on traditional physical mobility (TPM). International virtual mobility (IVM) is a more recent alternative that implies an online cross-border HE experience where students remain in their own country without physically moving. IVM is rapidly gaining importance in HE because it facilitates mobility to students who are unable to engage in TPM programmes (Abramuszkinová-Pavlíková, 2014; Maček, Ritonija, 2016; Op de Beeck et al., 2011). Additionally, the recent health crisis caused by the COVID-19

and its consequent mobility restrictions has brought increased attention to IVM.

Despite this increasing interest on IVM, there is a lack of research that analyses the students' valuation of IVM programmes and their willingness to engage on them. The aim of this work is to get an approach to this issue. Our empirical analysis relies on a sample of over 1,000 students from the University of Oviedo (Spain) involved in an international mobility programmes during the 2018-2019 (pre-COVID-19 crisis), 2019-2020 (COVID-19 crisis outbreak), and 2020-2021 (ongoing crisis or expected post crisis). Among them, a group of students that turned to IVM due to the COVID-19 outbreak in Europe during the spring term of the 2019-2020 academic year.

The remainder of this article is organized as follows: We begin with an outline of the IVM mode of the Erasmus+ formula, analysing its benefits and shortcomings. We then place an empirical analysis of the students' perceptions and willingness to engage in an IVP programme, and depict the experience of the students that turned to IVM during the 2019-2020 spring semester. The article finishes with some reflections.

2. International Virtual Mobility in the ERASMUS programme

IVM relies on the utilization of information and communication technologies to gain the same rewards as TPM without having to travel (Elearning Europe, 2009). EADTU (2010) emphasizes the idea of a pursuit grounded in collaboration of at least two HE institutions that offer their students an international academic experience through the opportunity to acquire several European Credit Transfers System (ECTS) points at one of the foreign partner universities or through a joint activity.

In 2018 the Erasmus+ virtual exchange program (E+VEP) was introduced as part of the Erasmus programme with the aim of providing an accessible and ground-breaking way for young people to engage in intercultural learning (EU, 2020). It pursues to complement the traditional programme and expand its reach by relying on new media platforms and. Crucially, E+VEP is/should be an opportunity for a broader range of participants to enhance their competencies, especially their intercultural, foreign language, and work readiness skills, a factor that significantly distinguishes this program from other forms of IVM (Cairns, Krzaklewska, 2019). Although it encompasses a wide range of activities, from this moment we will focus exclusively on students' credit mobility in partner institutions within official HE programmes where activities and courses are certified and mutually acknowledged by participating institutions (Maček, Ritonija, 2016; Rajagopal et al., 2020). In the rest of this paper, the E+VEP label will be used to refer exclusively to this activity.

3. Methodology: data collection

Data collection took place in June 2020 through a web-based survey conducted among the students at the University of Oviedo (Spain)¹. The survey was designed by a team involving 4 academic coordinators of ERASMUS+ agreements, a faculty's international coordinator, and an academic lecturer expert in market research.

The survey content was structured in different blocks. By building on existing literature, we placed questions related to the students' objectives for undertaking the programme (planned or ex ante objectives), their achieved objectives once the program was completed (ex post objectives), their opinion about IVM and its potential drawbacks, as well as their willingness/preference to engage in a IVM programme. The students whose mobility programme was impacted by the COVID-19 outbreak and decided to return home but continue with their programme at the host institution through an IVM option were also asked about the IVM management by the host institution and their experience. The survey main features are shown in Table 1. It was administered in May 2020 to all the students that participated in an international credit mobility program during the 2018-2019 (pre-COVID-19) and 2019-2020 (COVID-19 outbreak) academic years, as well as to students nominated for a mobility program in 2020-2021 (crisis ongoing or expected post-crisis).

TAB. 1. Survey features.

<i>Type of questions</i>	Likert scales. Close-ended (single choice, radio-button). Entry boxes for additional options and comments.
<i>Pre-test phase</i>	2 nd half of May 2020. 6 students (2 per each academic year). Survey response + interview.
<i>Administration</i>	Online survey. Email sent to the students introducing the research project and team, inviting to participate, and including a direct link to the online survey. Corporate and/or personal students' email accounts. First delivery: June 1 st , 2020. Two consecutive reminders: June 8 th and June 15 th , 2020. Target population: 2,856 students that participated in or were nominated for an international credit mobility program Academic years: 18-19, 19-20 and 20-21.

Source: Own elaboration,

Overall, the achieved response rate is 41.8% that provides a 99% confidence level and a 3% margin of error. Over 95% of respondents are

¹ The University of Oviedo is a Spanish public university that has over 20,000 students and offers a wide range of degrees (graduate and postgraduate). On average, about 1,000 students engage yearly on an international credit mobility within the ERASMUS+ program during the 2018-2021 period.

under 25 years old and were involved in the mobility program when studying their bachelor's degree. There is a sharp predominance of social sciences (e.g.: business and economics, law, teaching) and engineering students; these two groups account together for over two thirds of the sample. Most of the students have no previous experience with international mobility or on-line teaching at HE. English is the predominant language for the mobility, mainly used as lingua franca in non-native English-speaking countries – a pattern consistent with existing literature – e.g.: Beerkens et al. (2016); Caruso, De Wit (2015). Full academic year mobility is predominant and, in congruence with earlier studies², most sojourners are female.

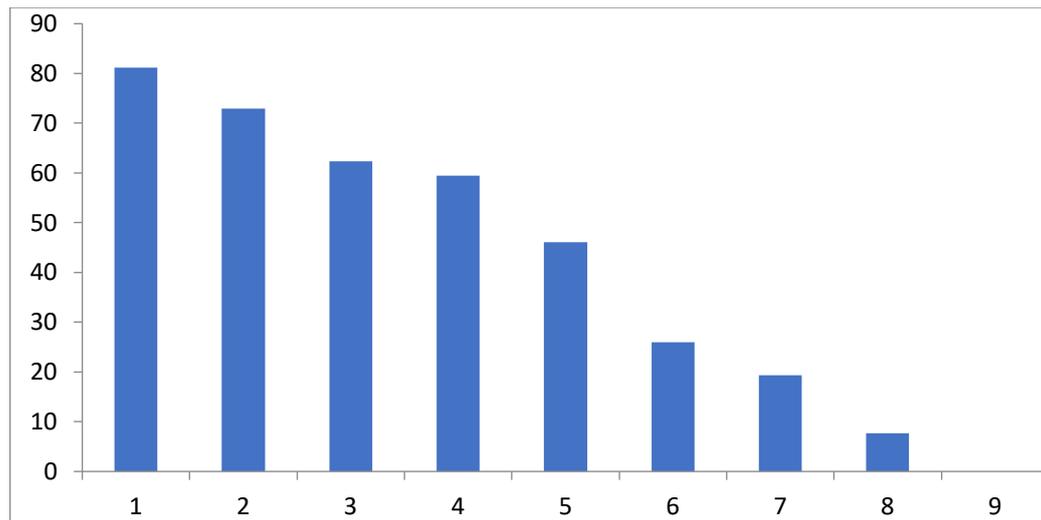
Following Shields (2016) we clustered the 29 recipient countries in 3 different blocks for EU countries and we added a different cluster for non-EU nations. Over 95% of the students enjoyed their mobility within the EU distributing themselves quite evenly among Western, Eastern, and Southern nations.

4. Results

Students' ex ante objectives were characterized into eight subjects which broadly fall into two major clusters across: personal and social (i.e. personal development, language development, travelling and learning about other countries, cross-cultural competencies) and future career (academic development and professional opportunities) objectives, allowing for a difference between mobility for consumption and mobility for investment (Souto-Otero, 2008). Personal development is a foremost objective of the students and reveals that they perceive the mobility programme as an opportunity to mature and develop their personal autonomy and to travel and get to know other countries – see Graph 1. Improving language and cross-cultural skills are significant objective for many sojourners, and act as a link pin for fulfilling all other objectives. On the other hand, academic and future career objectives are lower priority goals for most students – maybe reflecting that, as a general rule, returns of study credit mobility in terms of employability and professional value show a declining tendency (Souto-Otero, 2008; Teichler, 2009). As we will see in the following section, overall a positive (statistically significant at 99%) association exists between pursued and achieved objectives; anyhow, achieved objectives in the personal and social cluster outperforms the planned ones, while achieved career objectives are lower than planned (except for the case of improving the chances of accessing the job market in the host country).

² See, for instance, Böttcher *et al.*, (2016) and De Benedictis, Leoni (2020).

FIG. 1. Students' ex ante objectives —% of students pointing to each objective.



1. Personal development: maturity and autonomy.
2. Improve skills in a foreign language.
3. Travel and get to know other countries.
4. Develop cross-cultural competencies.
5. Improve resume/ CV.

Source: Own elaboration.

6. Improve access to the global job market.
7. To Improve access to the local job market (home country).
8. To improve access to the local job market (host country): first step for potential future migration.

4.1. International virtual mobility: the students' perspective

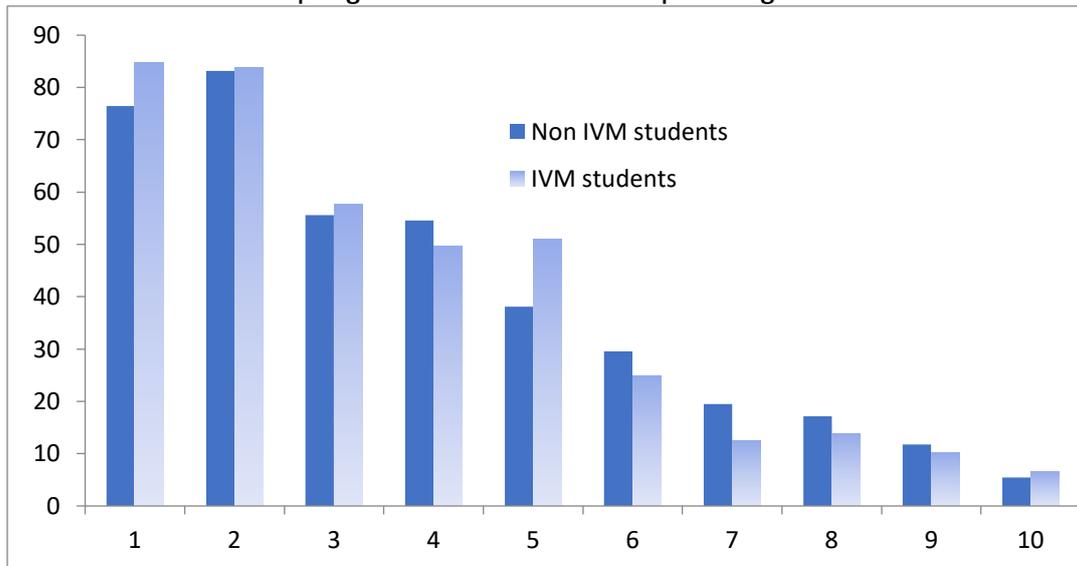
About 45% of students think that IVM is a good alternative to TPM when contextual factors impede or seriously difficult the latter (for instance, during a health or financial crisis); however, this percentage falls below 10% if these restraints are not present. Furthermore, about one third of the students would be willing to engage in an IVM program, but only 5% of them prefer this option over a TPM program. Overall, IVM seems to arise just as a second-best option to be considered only when TPM is not possible.

The reluctance of students to undertake to IVM seems to be clearly due to its shortcomings in the social arena: the factors that arise as the most relevant drawbacks of IVM are the lack of social interaction in and outside the university (about 80% of students point to these problems, as shown in Graph 2).

Furthermore, the lack of face-to-face interaction with teachers and colleagues make students feel that they are not a legitimate part of the host university and impedes them from to gaining cross cultural skills (over 55%). Another main concern is related to the limitations that IVM places to the improvement of language skills (almost 60% of students point to this issue as a relevant drawback); additionally, about 40% of students consider that their academic program would be seriously challenged by their lack of motivation to work alone. Turning to its academic and career impact, less than 20% fears that the IVM has a no-relevant impact on their resume or that it is not positively valued by future employees. Anyhow, about 30% of students think that IVM will not allow them to develop a network of relationships useful in the future. Physical (e.g.: lack of

adequate space) or technical (e.g.: lack of adequate WIFI, IT equipment, or skills for managing the technology) problems are marginally pointed by students as relevant shortcomings.

FIG. 2. Drawbacks of IVM programs — % of students pointing to each drawback



1. No legitimate part of the host university
2. Lack of social interaction outside the university
3. Difficulty gaining cross-cultural skills
4. Not significantly improve language skills
5. Lack of motivation to work alone

6. Not help develop a network of relationships
7. Not valued by future employers
8. Not significantly improve the resume/CV
9. Lack of adequate tech. or physical infrastructures
10. Difficulty managing the technology

Source: Own elaboration.

4.2. The IVM experience

After its first outbreak in China in December 2019-January 2020, the COVID-19 burst in Europe in February-March 2020 and all over the world onwards (WHO, 2021). Therefore, the first wave of the COVID-19 pandemic had a direct impact on the international mobility experience of the 2019-2020 students that were on mobility during the spring semester (297 students). A scarce 3% surrendered their mobility program and travelled back to Spain to continue their studies at their home university. Over 97% decided to continue with their study program at their host institution, they distribute quite evenly among those that stayed at their host nation and those that decided to travel back to Spain and continue with their study program through an IVM option.

The perceived drawbacks of IVM related to the lack of social interactions in and outside the university persist as a major consideration for IVM students — as shown in Graph 2, an even larger percentage of students (over 85%) highlight the gravity of not feeling as a legitimate part of the host university. At the same time, the number of students that find it challenging

to be motivated to study remotely online alone rises over 50%. Technical problems and lack of adequate infrastructures remain as marginal concerns. Conversely, the percentage of students that show academic or career concerns slightly decreases, as it does the percentage of students that think that the IVM does not help them to improve their language skills nor develop a relevant network. Anyhow, the students' perception of IVM having a negative impact on their language skills may be an unrealistic concern according to the achieved objectives reported by the students themselves, as shown in the following paragraphs.

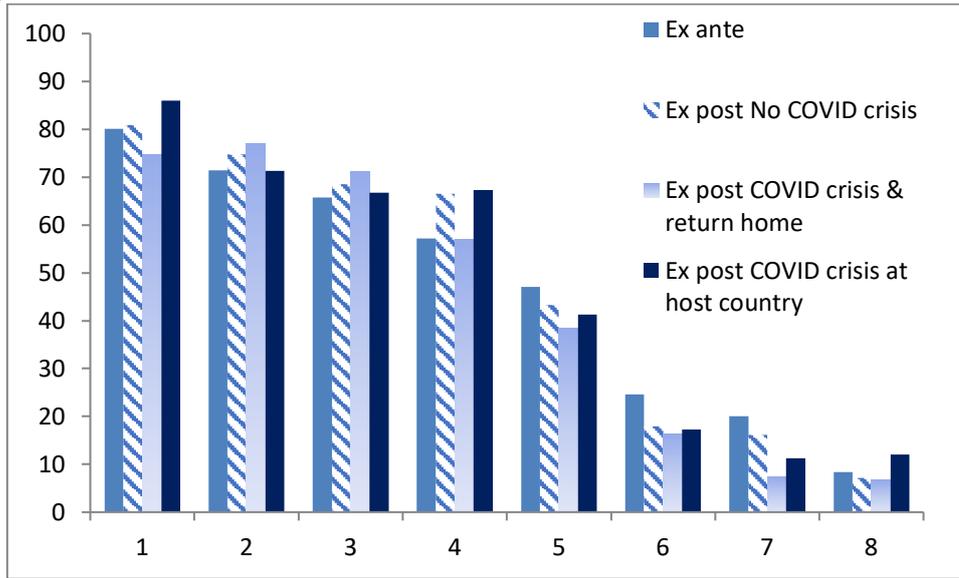
The analyses performed to explore the association between the decision to turn to IVM (versus remaining at the host country) and the set of IVM drawbacks previously analysed did not yield statistically significant results. Therefore, it is not possible to point to any specific shortcoming as the trigger of that decision. Anyhow, it is reasonable to assume that the context in which the analysis is being performed (COVID-19 health crisis) may condition this (lack of) relationship.

Graph 3 compares the students' planned (*ex ante*) and achieved (*ex post*) objectives related to the mobility programme. The latter are classified in 3 groups depending on the students' situation: students whose mobility program was not impacted by the COVID-19 crisis, students whose programme was impacted by the crisis and continued at their host institution, and students whose programme was impacted by the crisis and turned to IVM.

IVM students report the lowest degree of achievement related to personal development, improvement of cross-cultural competencies, upgrading of their academic CV, and enhancement of their professional options. Although some previous studies place that cross-cultural competencies (particularly, soft competencies, such as the development of intercultural awareness) can/should be effectively developed in IVM programs (EU, Youth Portal, 2020; Hammer, Bennett, 2003), these results support the students' concerns about the IVM shortcomings related to social and personal issues. Additionally, it seems that this group of students do not perceive that the IVM benefits their work readiness and employability as claimed by existing literature (e.g.: Cairns et al., 2018) regardless of the IVM focus on innovative solutions highly valued by potential employers.

Continuing with the mobility programme through an IVM option did not harm the students' achievement in terms of language improvement; just on the contrary, the students that returned home reported the highest improvement in their language skills. This result is according to the extant literature which points that language skills can be enhanced in an IVM setting (Helm, Guth, 2010; Vurdien, Puranen, 2020; Walasek et al., 2007). However, referring to our earlier observations, this may depend on English studied in an Anglophone country or in a lingua franca context.

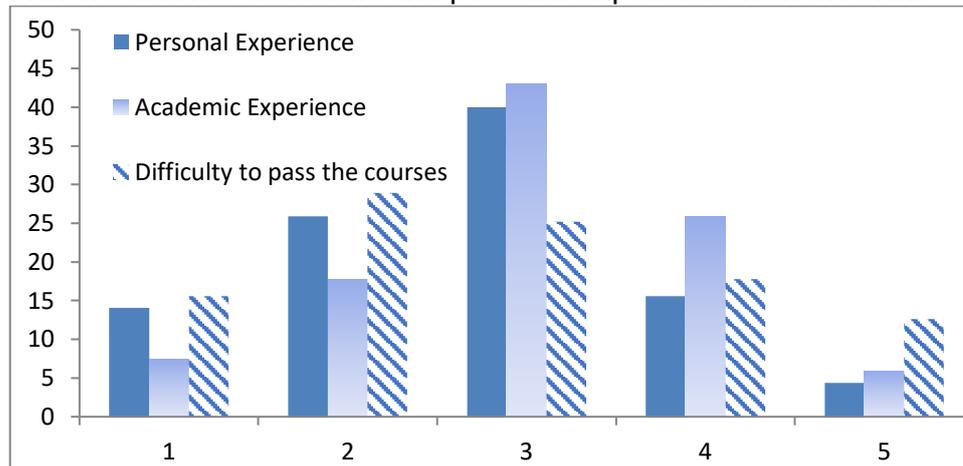
FIG. 3. Students' ex ante and ex post objectives —% of students pointing to each objective.



1. Personal development: maturity and autonomy.
 2. Improve skills in a foreign language.
 3. Travel and get to know other countries.
 4. Develop cross-cultural competencies.
 5. Improve resume/ CV.
- Source: Own elaboration.

6. Improve access to the global job market.
7. Improve access to the local job market (home country).
8. To improve access to the local job market (host country): first step for potential future migration

As shown in Graph 4, the academic experience of IVM students ranks quite higher than their personal one. The percentage of students that negatively value their personal experience with the IVM option (about 40%) doubles the number of students that positively value it. About one third of the students value in a positive way their academic experience, in spite of the fact that over 40% of them found it more difficult to pass their courses due to the lack of face-to-face activity. This difficulty persists even though about half of the students affirm that they were properly supported by the host university teachers and staff in the transition to online teaching activities, the contact with teachers took place fluently through different ways (e.g.: email, mentoring, tutoring activity through ICT platforms), and teaching sessions were regularly delivered through synchronous technology platforms that allowed interaction with teachers and colleagues.

FIG. 4. Students' academic and personal experience with the IVM.

Very unsatisfactory/very high difficulty - very satisfactory/very low difficulty
Source: Own elaboration.

Final reflections

Virtual mobility has both benefits and limitations. The E+VEP has the potential to tick all the right boxes in terms of internationalization of HE (De Wit, 2016; Leask, De Wit, 2016). Accordingly, it appears to serve as a realistic alternative to Erasmus TPM. While E+VEP is still a fledgling field of scholarship, it appears that it can be considered a legitimate international experience. IVM student learning promotes a solid transformative learning and cultural awareness platform. The embedded learning activity serves as a guide for applying a useful pedagogical framework with a real-world application.

For successful IVM, educators must guide and assist students. Home universities need to better prepare students for the IVM experience with orientation courses involving helping students with communication and networking skills, informing them for the solitude and isolation when working alone, and providing initial cross-cultural preparation courses for the new culture. Host universities can be more proactive in making students feel at home, introducing virtual social clubs, more group work and professors proactively tracking and engaging with IVM students. However, it must be bore in mind that IVM is not appropriate for all students, especially those who have difficulty assuming the responsibilities required with the online learning paradigm, which may call for screening for entry to the program.

As European strategy calls for boosting student mobility, E+VEP could be an effective alternative that offers all students in HE the possibility of international experience. Though, as a final word, it must be considered that virtual exchange, like internationalization, is a means to an end (De Wit, 2016), and in that light, perhaps there is often too much focus on the process itself. After all, the technicalities of IVM are perhaps part of the journey; it's the potential achievement that is the critical issue.

Nonetheless, Erasmus + ultimately offers another possible method to give students international capabilities.

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Young People, Identity and Experience in Europe

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ABSTRACT: *The purpose of this contribution is to investigate the participation of young people at the Erasmus program. The question from which the research moves is whether participation at the Erasmus experience can be considered a form of agency with which young people face the adversities that characterize contemporaneity. The outcomes presented here result from a first battery of interviews with Erasmus students living in the city of Perugia. Being young today means facing a series of challenges related to the difficulty in entering the world of work with global competition, following paths that are often fragmented and discontinuous, not very inclined to stability. In order to face these difficulties young people put in place forms of agency, participation at the Erasmus program could therefore be one of these: a path at the end of which students could obtain tools to face adversity and structural obstacles but also they could find a more stable identity reference in a feeling of European belonging.*

KEYWORDS: *young people, Erasmus, agency*

Introduction

In my contribution I would like to report some preliminary aspects that emerge from a first battery of interviews with Erasmus students. The interviews are part of my PhD research project which intends to investigate whether Erasmus experience can be understood as a form of agency that young people put in place to overcome crisis contexts and if Erasmus can compose a reference to look at in the construction of identity. The first results that I will report here will also be complemented by reflections on the actual pandemic context linked with student mobility.

The great processes that have affected society since the 1980s have led to new questions, interests and fields in Youth Studies: social and economic transformations have made more difficult for young people to develop a linear biography and consequently to develop a life project (Spanò, 2018, Leccardi, 2005).

Some of these difficulties are related to the transition from school to work both because the school lacks professional activities (Rapporto Giovani, 2018) and because the world of work appears saturated, not very inclined to absorb young people with a high level of education. Another

element of difficulty is the acceleration of the rhythm of life (Rosa, (2010) 2012) that we are experiencing: the fact that young people live an increasing number of experiences in a short period of time leads to the disappearance of the future, swallowed up by the present. This process is defined as *presentification* or a way of experiencing time in which past and future have little value: the former loses its authority as a source of experiences, cultural certainties and values that can be transferred to the present, while the latter does not look at anything other than with distrust. The inability to glimpse the future deprives young people of their natural planning, making it difficult to make life plans or build a stable and lasting biography (Mandich, 2010).

All those processes take place on the background of a globalized world which always calls into question origins, belonging and identity.

Now, compared to this not very reassuring panorama, we can take a more reassuring look assuming that young people find ways to act strategically and one of these strategies could be youth mobility.

1. The debate and the concept of agency

Before getting to the heart of the matter it is important to describe the debate that in recent years oppose two lines of thought in Youth Studies: the first concerning the supporters of agency and the second the supporters of structures.

The debate that collects the voices of authoritative experts in Youth Studies such as Dan Woodman (2009, 2010), Steven Roberts (2010), Steven Threadgold (2011) it revolves around the theme whether the action of young people can be decisive in emerging from the impasse in which they find themselves or whether social structures represent insurmountable obstacles that limit action. Now, of this debate that finds a momentary agreement in middle ground theories such as those that support an agency dependent on structures (Evans, 2007), what interests my research is actually the conceptualization of agency and the attention to structures.

Erasmus can be considered a form of agency? It is a way to overcome structures and adverse situations such as COVID-19 for example?

Agency is a very intertwined concept in Youth Studies, Julia Coffrey and David Farrugia define it as a black box of youth studies (Coffrey, Farrugia, 2014). The agency was born in conjunction with the recognition of social structures in life choices, this influence is not deterministic because young people, far from being passive subjects, respond to structural influences by making decisions and creating new experiences. I will borrow the definition of agency by Johanna Wyn and Rob White (1998):

agency involves consciousness of the potential to take action, the willingness to engage in collective a action in the interests of the group

and, importantly, the knowledge and the willingness to challenge the existing structures. Thus, agency is about knowledge, power and the ability to activate resources. Social divisions and inequalities have an impact on the extent to which individuals and groups have access to each of these aspects of effective agency. Furthermore, agency is a continuous process, involving constant ebbed and flows depending upon immediate material circumstances and group dynamics.

Agency therefore concerns knowledge and power and the ability to activate resources and is understood as a continuous process.

Recently, the new epistemic approaches have revisited the concept of agency by including the notion of vulnerability: «A form of generational vulnerability can be identified for young people who in the last ten years have experienced the consequences of the economic crisis and the pitfalls of the material economy» (Rebughini, 2019). In this sense, the agency that arises from vulnerability is a direct derivation of the contemporary youth condition described in the previous paragraphs. Thus, new relationships are created between the ability to construct reality and be conditioned by it, therefore between agency and vulnerability. Considering agency as a response to vulnerability and not as opposed to it also means reflecting on the tactics put in place by young people to address structural impediments, understanding new practices, criticisms and forms of solidarity. The precariousness that characterizes the condition of young people can be analyzed in terms of personal abilities and self-management, in the ability to know how to seize opportunities and move in the crisis. The agency is therefore understood as the ability to develop an autonomous action. The descriptive elements of the condition of youth that have been seen so far: the difficulties in entering the world of work, the non-linear transitions to adulthood, the *presentification*, are generational characteristics that have become radicalized in the last ten years, in this sense Rebughini suggests a specific generational perspective of the precarious situation of young people. If the characteristics of this generation are precariousness, difficult transitions to adult life, etc. agency can instead be understood as a generational characteristic, in the sense intended by Mannheim, as a framework through which meanings and experiences find a common ground. It is therefore interesting to understand agency as a prerogative of this current generation of young people and to analyze the ways in which this is declined.

2. Young People and Mobility

I decided to structure the analysis of the interviews on three continuous levels: the first concerns the way in which the Erasmus experience is lived and refers to the *cosmopolitan orientations* proposed by the Italian-French sociologist Vincenzo Cicchelli. As we will see, I use these aspects

to understand which skills young people acquire in living in the global world thanks to their experience abroad. The second level, on the other hand, refers to agency considering both the reasons that push young people to leave and the knowledge and skills that young people acquire abroad (composing the agency). The last aspect concerns the European identity and therefore a strengthened sense of belonging that this experience may or may not produce in young people (Cicchelli, 2016).

2.1 Cosmopolitan orientations

Cicchelli distinguishes four cosmopolitan orientations or postures that the subject assumes when he/she relates with another culture: *the cosmo-aesthetic orientation* as form of curiosity and attraction for culturally distant products and practices, is manifested in the consumption of cultural products, in an anthropological sense, considered as exotic. *The cosmo-culturalist orientation*, this case concerns the interest in behavioral codes resulting from the encounter with particular cultures, therefore it refers to the ability of the subject to relate experiences of his own culture and of a culture considered different and presupposes the ability to master different cultural codes. *The cosmo-ethical orientation*, the third one, refers to caring for others or to feeling responsible in part for the fate of the world, it involves practices like getting informed or carrying out solidarity gestures and also implies a conscience and an active interest toward the others. *The cosmopolitical orientation* is the way in which individuals consider coexistence with cultural plurality, therefore welcome, tolerance, and hospitality, but it is also an interest in national immigration management policies or the various policies concerning the relationship between different nations, states, cultures.

I have prepared questions targeted on the four orientations. Regarding the interest in cultural products, the Erasmus students were enthusiastic about new products not only referable to Italy (the country where they are carrying out their experience) but also from other countries:

Here I learned how to make food, I learned how to make pasta, I have my book so I wrote everything: how to do it and the recipes like gricia, cacio e pepe [...] then the pizza for example here at the Bacio (the restaurant where he works) I wait for the dishes in the kitchen and I look at how it's done, I ask what this is, how to do this. Every now and then we had a dinner, or many dinners, once the Poles cooked, the Germans less, but the Poles, the French... and I want Omar's recipe for example [...] and therefore also many words, many songs, even some languages, I don't know if I'll sit down to study French but I'm going to try to learn French, like a few words to make me understand at least and I started here with the songs that my friends taught me.

With respect to the interest in cultural codes, here too the answer is positive:

This seems beautiful to me, we have a more or less similar culture, it's not like I don't know, Asia, it's such a different culture, but between us: Poland, Spain, yes it is true what I said before we are different but not so much. I think that on a personal level we remove borders.

This is connected with ethical orientation, the third orientation, young people immerse themselves in the culture of arrival and also they want to know the problems that characterize it and and they reflect by comparing to their own country. Many have talked about how Italy seems a very Catholic country, for example the Spaniards who reflected on homosexual marriage. Even the meeting with other Erasmus, the speeches about the problems of other countries translates into an interest and a greater desire to get informed. It is also interesting to note how in some cases Erasmus affects another type of values not related to the sphere of cosmopolitanism, post-materialist values such as attention to the environment:

Then here I got into the habit of recycling, even if we (in Spain) do it a little with glass, but we don't do much, it's not mandatory. And I will do it even if in my room, at least in my room I will have my buckets to do it [...] so I take all this and take it to Spain.

Finally, at the question if this set of attitudes translates into a cosmopolitan orientation we can answer that it seems that young people who decide to start an Erasmus have already instilled values of openness and tolerance, but the Erasmus experience highlights them and proves them and make people aware of them. It therefore seems that Erasmus works in stimulating a pleasure in encountering the others for young people and learning cultural codes that allow them to live in a globalized world:

My mentality is also different from when I arrived

Yes Erasmus must be done... you know, when one discovers these things, the desire enters, the desire enters.

2.2 Agency

The second point concerns the agency. I started from the motivations that push young people to do Erasmus to understand what they look for in this experience and to understand how Erasmus provides useful skills. From the interviews I noticed how young people decide to leave mainly for reasons related to the university: some to solve a stucked university situations:

There in Seville my (university) career is heavy, I am a bit blocked [...] and therefore that is an important point because I brought here (in Italy) so many difficult courses

or to deal with different university systems such as the various ways in which exams are taken, for instance learning to take an oral exam which are not carried out at the home university.

Also very important is the desire to learn to live independently

I find this experience so important for many things: for example at an economic level when I arrived here I thought that what I had from my savings and the scholarship was very good, but no, no no no. You do not know how much it costs to live because your parents always do everything and shopping [...] you are not used to calculating [...] to manage all things

When I arrived I had never taken a flight so far [...] and I remember that I had a great fear [...] then after four months I already had a flight to go to Naples to see a friend so now I enter the airport and it's like... don't worry, you manage things.

Here I learned how to manage a house, my home.

In short, beyond practical knowledge like a foreign language, Erasmus adds a set of cultural and practical skills, such as reflecting on different ways of thinking across cultures, recognize that there are several ways of seeing the same topic:

Is a good thing to go out for young Europeans it is, I am absolutely certain, because we have, every culture has its own things. I think that in some cultures, which I will not say now, but I think there is a bit of indoctrination in the way of thinking. I found that maybe I have some from Spain too, you know? But share things [...] it is important because you realize that what you thought is bullshit for you.

From the speeches of the interviewees it emerges that Erasmus is a way to learn to master different cultural codes and to be able to change context to increase one's possibilities. This allows a kind of facilitated planning in the sense that young persons, after having learned to move in a different context, can plan his/her future in several areas, leaving the non-agency in which he/her finds him/herself:

Personally, for me, looking at my interests, it is beautiful (the European Union project) because when I finish my (university) career [...] if I want to find a job in Germany I take the car and go. Or here (in Italy), if I find a job like I did, I can stay here, no problem [...] I know Italy, I feel closer to Italy and also to other countries.

2.3 European Identity

Finally, as regards the relationship between European and national identity, it appears that this is complementary.

Yes yes that's why the European Union does this because young people today are adults tomorrow, so if we start to unify now... we have to share all this, otherwise we will never make it

After Erasmus at least I feel more like a European citizen, before I was a Spanish citizen, now I feel European.

The fact of experiencing life in a different nation therefore leads young people to approach not only the culture of arrival but also to other cultures, appreciating the distance but also the closeness that unites the cultures of the various nationalities. The experience is immersive, but not shocking as it could be for another continent, it is a sort of safe and secure meeting between cultures that allows young people to acquire greater confidence. The European citizenship represents this double level of acquisition in knowing how to juggle between the culture / context of belonging and a new one.

3. Erasmus during pandemic

As for the reflections on mobility during the pandemic experience, it should be noted that in most cases, it was better to leave than not to leave at all. One respondent said, making sure I took note, »It's not a good Erasmus but it's better than not having done Erasmus«. His thought confirmed by others:

It was worth coming and doing Erasmus even with the Coronavirus, too much better to stay here. Because first as I said all this was a wonderful experience, I will carry everything with me [...] I would have been with my parents, I would have been afraid, so here I lived with young people, I was afraid I did not want to catch the virus, but I lived with young people, nobody worked in presence which can be a problem, no one had any physical or health problems, so I didn't have the same fear. My father has an important risk and my little sister also, so being out is the best thing that could have happened to me.

The fact of having passed this experience in the company of friends without the fear of the contagion of fragile family members was the major component that pushed young people to spend an Erasmus even with the pandemic. But there was also a lot of solidarity, in this sense, the work of the ESN voluntary association made up of former Erasmus students who are involved in facilitating the life of Erasmus students was essential. In this sense, the association active in Perugia provided translations of government communications, helped students to do COVID-19 tests or put them in contact with doctors if they showed various symptoms. Forms of mutual aid and solidarity have developed which have ensured that the experience was positive even in the pandemic climate.

Conclusion

Clearly now, post-COVID-19 mobility will need to be analyzed, this gives me a way to conclude with the limits of this pilot research. First of all, a limit is the scarce material by being at the beginning of my research, subsequently there will be a need to investigate the characteristics of the European identity that young people are talking about and its values. It will be interesting to find out how this is described, if there are common traits, as it is expressed perhaps also in comparison with other continents. Finally, it would be interesting to find out to what extent Erasmus removes the structural limits, including economic ones, to see if it can be considered as a form of subsidized agency that allows young people to act regardless of the constraints. These are questions that can be proactive in the study of young people in Europe.

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International Student Recruitment and in-bound Mobility in the post-Pandemic World Order

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ABSTRACT: *International student enrollments in the United States have grown exponentially in the last two decades, leading more US Higher education institutions to invest in international student recruitment to get a share of the global student market. Since international students traditionally pay the full cost of attendance, this strategy is also a reaction to US Higher education budget cuts which particularly struck public universities, since the Great Recession of 2008. However, the COVID-19 pandemic, along with the challenging global political tensions and the contracting economy of the leading nations that send international students to the United States, international recruitment in the United States is looking at some of the biggest challenges in a post pandemic world. A survey questionnaire was sent to forty-two international admissions officers working for US higher education institutions to identify the challenges and trends they foresee for international student recruitment in a post-pandemic time.*

KEYWORDS: *Recruitment, Mobility, Budget cuts, Enrollment, International students*

Introduction

The last two decades witnessed a dramatic increase in international student enrollments at American higher education institutions. There has been fierce competition for international students at US institutions, in part to the fact that international students traditionally pay full tuition and fees. Due to this, many doctoral and research institutions in the United States have generated net revenue by increasing international undergraduate enrollments (Cantwell, 2015). However, recent developments have led to international student enrollment decrease at American colleges and universities. New enrollments of international students in 2020 declined 43%, while even the pre-pandemic data highlighted a fourth straight year declines in new international student numbers as well as an overall decline in international students on American campuses (Open Doors, 2020). At the same time, «one in five international students are studying online from outside the U.S.» (Redden, 2020). According to NAFSA, (n.d.), the US Higher education

institutions could see a loss of 3 billion dollars in revenue due to the major declines in international student enrollment.

International enrollment professionals received good news from the Biden administration as the U.S. Department of State announced that student-visa holders from multiple countries would be exempt from travel bans related to the coronavirus (Fischer, 2021b). Additionally, the U.S. Department of Homeland Security announced that it would extend pandemic guidance to continue to allow international students flexibility to study online for the 2021-2022 academic year. Even though travel restrictions are being lifted, international students who desire to study in the U.S. still face issues getting student visas. With only approximately 40 percent of U.S. consulates regularly scheduling visa appointments (Fischer, 2021b), international students in many locations throughout the world may not be able to get a visa in time to travel for the 2021-2022 academic year. Consulates that are open are encountering significant backlogs of visa applications, further delaying international students' entry to the U.S.

International admissions officers at higher education institutions in the U.S. are keenly aware of the struggles that potential students face in a post-pandemic world. Admissions officers must recruit and advise students with these difficulties in mind. Additionally, international student mobility from China, whose students accounted for over a third of all international students in the U.S. prior to COVID-19, may be significantly hampered by other factors. Chinese and American relations have deteriorated, especially under the Trump administration (Allen, Ye, 2021). Anti-Asian violence in the U.S. has stoked safety fears by Chinese students. Also, Chinese students may not feel safe based on the American response to the coronavirus (Allen, Ye, 2021). With those factors in mind, it is constructive to understand what international admissions officers in the U.S. see as the most challenging barriers to international student mobility and how their respective institutions are responding.

Method

This paper focusses on the future of international higher education recruitment in the United States in a post-pandemic world by conducting a quantitative survey with forty-two international admissions officers working for US higher education institutions. The survey questionnaire was developed to identify the most challenging factors for international student recruitment according to the international admission officers in US Higher education institutions in a post-pandemic world as well as how institutions have changed and adapted their strategies since the pandemic began. The questions focused on economic challenges, support from university administration, virtual recruitment, online academic programs, working with educational agents and development of academic partnerships with local educational institutions.

Demographic Surveyed

The survey was conducted by reaching out to admission officers serving in the United States higher education institutions through the organization international association for college admission counseling. Forty-two international admission officers working at various public and private higher education institutions in the United States took the survey. The findings represent the demographics of higher education institutions that undertook the survey considering factors such as public and private higher education institution as well as the percentage and size of the international student enrollment, international student admission staff and location of the institution.

TAB. 1. *Institution Demographics for United States higher education institutions that undertook the survey*

<i>Question</i>	<i>Number of responses</i>	<i>Percentage of total responses</i>
Is your institution public or private?		
Public	23	54.76%
Private	19	45.24%
Total number of students currently enrolled		
Less than 10,000	18	42.86%
More than 10,000	24	57.14%
Percentage of the international student population from the total student population		
1-3%	14	33.33%
4-7%	16	38.09%
8-11%	6	14.29%
12% or higher	6	14.29%
Full-time international admission staff		
1-5 people	30	71.43%
6 and more people	12	28.57%
Top ranking regions based on NAFSA (Association of International Educators) regions		
Region X (New Jersey, New York)	11	26.19%
Region II (Arizona, Colorado, Kansas, Montana, Nebraska, New Mexico, Utah, Wyoming)	8	19.05%
Region V (Illinois, Michigan, Wisconsin)	6	14.29%

1. Challenges in In-Bound International Student Mobility

Governmental visa policies followed by the rising cost of higher education in the United States seemed to be the leading factors of concern for international admission officers at US higher education institutions for the future of international student recruitment. The visa policy concern highlights the reflection of the Trump era immigration policies such as the Muslim travel ban enacted against seven Muslim-majority countries that affected international student mobility from those

countries and others (Van De Walker, Slate, 2019). Such instances of rhetoric and government policy resulted into decline in student numbers in 2017-2018 academic year, the new international student enrollment in US colleges decreased by 6.6% compared to the prior year (Bellmore, Hacker, 2020). The anti-immigration rhetoric and the America first governmental policies certainly discouraged many international students to consider the United States as their destination for higher education. Moreover, even though going into the Trump administration years, the United States remained the largest destination for international students, the uncertainty, the trade war clash with China, and the restrictive visa policies overtook the biggest of concerns for international admission officers. Even during the pandemic, the Trump administration decided to enforce the policy requiring international students in the United States to take all or part of their academic coursework in person, resulting in a revolt by United States higher education institutions who took the matter to the courts. Additionally, although the Trump administration eventually decided to rescind its policy after at least 20 states and two dozen universities decided to challenge the Trump government's directive, the damage to America's reputation as a destination for higher education was already underway due to such governmental policies (Redden, 2020). According to Bellmore and Hacker (2020), the Trump administration's policies lead to decline in large number of student visas between 2016 to 2017, with the most significant directive resulting from countries that were put on the Muslim ban list where in Iraq, Libya, Somalia and Yemen each saw a 50% decline in student visas, while Sudan and Syria decreased by 47.5% and 49.4%.

Similarly, while international students have been willing to pay higher tuition dollars than domestic students, the evolving dynamic of international education where students have the option of studying at a lower cost in other countries and an increase in tuition fees at US higher education institutions may lead to decline in international student population (Sachez-Serra, Marconi, 2018). Hence, even though the US remains the leading country in terms of hosting international students from all over the world, the rising cost of tuition remains a major obstacle in terms of attracting international students. Part of the challenge of the rising tuition cost has been due to the decline in state appropriations to many public universities, which have started to depend on out of state students and international students to fill that revenue gap. Hence based on the academic capitalism model, higher education institutions in the United States responded to globalization and neoliberal policy regime by becoming more entrepreneurial and competing for market resources (Cantwell, 2015). In a post-great recession economy from 2009 and beyond, the United States started to look at international student recruitment as an opportunity to grow its student population that were willing to self-fund their education, this second wave of international student mobility really established international admission departments at various higher education institutions (Choudaha, 2017). According to

Open Doors (2020), International student numbers in the United States grew from 582,984 in 2006-2007 to 1,095,299 in 2018-2019. However, in a post Trump administration period this growth saw a major slowdown and decline due to policies that hindered international student recruitment for many higher education institutions, consecutively the fact that international students had many more countries to choose from in regard to their destination for higher education, has added to the challenges of international student recruitment overall. According to Choudaha (2017), the third wave of international student mobility in the context of economic and political turbulence is being influenced by demographics shift and emergence of new destinations for international students. Thus, in a globally competitive world, where US higher education institutions are competing not just on the basis of quality of education, but also the cost of education and access of getting a student visa, steep challenges remain for US based international admission officers.

The third major factor that US international admission officers see as a challenge in terms of international student recruitment is the ever-increasing isolationist policies often being pushed by governments around the world. The biggest in this case has been the Chinese Ministry of Education which in June 2019 warned Chinese students who were considering to study in the United States emphasizing the increasing case of visa restrictions, prolonged review times and the rising rate of rejections (Westcott, Wang, 2019). To some extent, this has also been a knee jerk reaction by the Chinese authorities on the ongoing trade war and tariff disagreements between the US and the Chinese governments and other geopolitical issues at several fronts. However, the deteriorating relationship has now started affecting student applications from China where in fall 2021, the common app saw an 18 percent decrease in Chinese applicants interested in studying at US higher education institutions (Fischer, 2021a). This loss of confidence has been mutual, as the US government particularly during the Trump administration put restrictions on the Chinese government funded Confucius institutions in US universities as a stopgap measure for spreading Chinese propaganda (Fischer, 2021a). These challenges and more have added to the isolationist policies both on the US and Chinese government side, thus leading to the declining rate of Chinese international students interested in studying in the United States.

Economic challenges faced by students and their families particularly due to the impact of the pandemic have also led to question the future of international student mobility from many parts of the world that send students to the United States. One such example is the case of India, which is the second leading country for inbound international students to the United States (Open doors, 2020). According to Madhok (2021), during the early period of the pandemic in 2020 India slipped into recession for the first time in nearly a quarter of the century, and even though in 2021 it seemed that the Indian economy would make a

comeback it was hit by the second leading to double digit unemployment and a weak economic recovery.

Finally, as the international education sector witnesses some major obstacles due to the changing of governmental policies and economic impacts due to the pandemic, the US higher education sector is seeing a significant decline both in international student numbers and in the loss of revenue. According to NAFSA (2020), the US economy lost more than 42,000 jobs and \$1.8 billion as the US saw decline in international student numbers in 2020 due to the pandemic as well as governmental policies implemented by the Trump administration. Again, the international education sector, which was once deemed a place of high revenue generation for university administrators, has started to lose its influence in the academic sphere, thus leading to the question of support from university administration for internationalization purposes.

TAB. 2. *Influential factors affecting the future of international student recruitment to US higher education institutions*

<i>Question: How important are each of the following factors for the future of international student recruitment to US higher education institutions?</i>	<i>Extremely Important</i>		<i>Very Important</i>		<i>Moderately Important</i>		<i>Not Very Important</i>		<i>Not at all Important</i>	
	%	n	%	n	%	n	%	n	%	n
The rising cost of higher education in the United States	40.48%	17	42.86%	18	14.29%	6	0.00%	0	2.38%	1
Governmental visa policies	61.90%	26	28.57%	12	7.14%	3	2.38%	1	0.00%	0
Changing inbound international student mobility due to isolationist policies	40.48%	17	33.33%	14	21.43%	9	4.76%	2	0.00%	0
Lack of support from university administration for internationalization focused initiatives	26.19%	11	33.33%	14	21.43%	9	11.90%	5	7.14%	3
Contracting economy of the leading international student sending countries to the United States	23.81%	10	38.10%	16	23.81%	10	7.14%	3	7.14%	3

2. Enrollment decline and budget cuts

According to Open Doors (2020), the United States saw a constant annual increase in international students in the post-Sept.11 years, where the total international student population grew from 541,324 in 2006/07 to 1,094,792 in 2017/18. However, with the election of President Trump and the nationalistic rhetoric in wake of his victory, US higher education institutions started witnessing hesitancy in international students coming

to the United States. While the overall international student numbers kept showing an increase in the early Trump years, much of this happened due to the massive increase in STEM Optional Practical Training (OPT) numbers, a policy passed during the end of the Obama administration. However, the percent change from prior year in new international enrollments saw a year-by-year decrease from 2015-2016 to 300,743 to 2019-202 which stood at 267,712 (Redden, 2020). Even with a Biden administration in power international student enrollment has been slow to this change due to the lasting impact of the pandemic that has led to the closures of US Embassies and consulates around the world, and thus limiting opportunities for student visa appointments.

The direct impact of the Trump administration's policies not only impacted the decline in international students coming to the United States, but also led to far fetching issues in impacting governmental policies particularly from China that have led to decline in international students numbers. The gradual impact to international student numbers has also resulted in the decline in revenue and jobs that have been supported through the enrollment of international students. According to NAFSA (2020), the total number of jobs created by international students declined by 42,294 (9.2%), this was a loss of \$ 1.8 billion in revenue from the prior academic year. These ongoing changes in the world of international education has also led to college administrators' change the internationalization priority as part of their strategic plan. The share of colleges reporting that internationalization is a high priority in their strategic plans and mission statements dropped between 2011 to 2017, perhaps highlighting that the golden age of international education was coming to a slowdown (Fischer, 2019).

TAB. 3. *International student enrollment decline and budget cuts*

<i>Question</i>	<i>Number of responses</i>	<i>Percentage of total responses</i>
Has there been an overall increase or decrease in international student enrollment since 2017?		
Increase	11	26.19%
Decrease	22	52.38%
Remained about the same	9	21.43%
Because of the pandemic, have there been budget cuts for the international admission and recruitment team?		
Yes	27	64.29%
No	15	35.71%

3. Virtual Recruitment

As US higher education institutions adapted to the virtual format of international student recruitment along with their colleagues globally,

some universities seemed to appreciate this opportunity as virtually they could have a more global reach than in-person recruitment, which needed a higher travel budget, and several representatives in their office that could go to various parts of the world. According to Fischer (2020), higher education institutions like Cornell and University of Texas at San Antonio emphasized that traditional in-person recruiting is constrained because individual admissions officers can travel to only a finite number of places, however, going online renders such limitations irrelevant. However, much to the benefits of online student recruitment, many international admission officers faced the challenges of virtual recruitment. In several parts of the world students have challenges in terms of access to the internet and personal computers, as well as constantly spending time in front of zoom has often led to zoom fatigue among students who are saturated with connecting with international admission officers in the virtual format (Fischer, 2020).

While the evolution of virtual recruitment certainly has saved US higher education institutions considerably in terms of their international travel budget, it has led to the question of future of international recruitment and if institutions would stick to this model in a post pandemic world too. And even though most admission officers believe that the increase in virtual recruitment fairs will not cut down the in-person visits, however, with the changing trajectory in international travel due to the pandemic and also budget cuts, the future of in person international recruitment remains to be seen.

TAB. 4. *The effect of virtual recruitment in the international student recruitment model*

<i>Question</i>	<i>Number of responses</i>	<i>Percentage of total responses</i>
The increase in virtual recruitment will lead to fewer in person recruitment events in a post pandemic world.		
Strongly Agree	4	9.52%
Agree	14	33.33%
Neither agree nor disagree	8	19.05%
Disagree	14	33.33%
Strongly disagree	2	4.76%
How effective has virtual recruitment been as compared to in person recruitment.		
Extremely effective	0	0.00%
Very effective	2	4.76%
Moderately effective	23	54.76%
Not Very effective	16	38.10%
Not effective At All	1	2.38%

4. Representation on the ground

With lack of opportunity to travel due to the global pandemic, international admission officers have once again relied on its allies such as country based representatives or educational agents on the ground to reach out to its prospective student population. In addition, while many US higher education institutions do not work with commission-based education agents, the trajectory seems to be changing. According to the National Association for College Admission Counseling, 36% of respondents to its admission trends survey reported using commission-based agents, while 27% were actively considering doing so (West, Huang et al.,). While there are higher education institutions that particularly value an in country admission representative due to their language and cultural background in connecting with prospective students and parents, there are universities that have struggled to justify such needs to their higher education administration. According to QS (2019), compared to university staff based in their institution's home country, in-country representative can communicate with students in their first language, manage regional agents and increase the frequency of event attendance, thus, by freeing university staff from these regional activities one can lower travel costs and provide students with a dedicated resource.

TAB. 5. *Regional/Country based recruitment model*

<i>Question</i>	<i>Number of responses</i>	<i>Percentage of total responses</i>
Higher education budget cuts will push more international admission offices to work with commission-based agents for international student recruitment.		
Strongly Agree	3	7.14%
Agree	13	30.95%
Neither agree nor disagree	16	38.10%
Disagree	10	23.81%
Strongly disagree	0	0.00%
Does your institution currently have a country or regional representative (based outside of the United States)		
Yes	9	21.43%
No	33	78.57%

5. Global Campus: Online programs to local partnerships

The inbound international student global mobility is going to undergo a major evolution in a post-pandemic world. The declining population of China and the economic situation in India will push the inbound student mobility particularly in Western nations that relied on students from these countries looking for new ways to adapt. According to Chao (2021),

internationalization of higher education post COVID-19 is likely to bring about a hybrid or even a strong trend to further develop digital based programs. Thus, development of international higher education branch campuses with local higher education institutions as well as the development of digital-hybrid based programs due to the cost reduction will certainly become important factors for US universities in adapting to the needs of various prospective students and their families. Hence, what is important for US higher education institutions to consider is that in a post-pandemic world internationalization and international student recruitment will have to evolve into a more partnership and hybrid focused format of education, thus taking into consideration the needs of various demographics around the world.

TAB.6. *Online and partnership based model*

<i>Question</i>	<i>Number of responses</i>	<i>Percentage of total responses</i>
Online academic programs specific to the needs of international students being developed at your higher education institution.		
Yes	17	40.48%
No	22	52.38%
Other	3	7.14%
Is your institution currently developing relationships with local education institutions to develop recruitment and other internationalization efforts?		
Yes	21	50.00%
No	21	50.00%

Conclusion

The US international higher education sector that was largely structured around the international inbound student mobility seems to be undergoing through some major challenges. While the pandemic certainly has accelerated many of these challenges, thus making it harder for international admission officers to recruit for US higher education institutions. The core struggles of US international higher education has gradually been evolving during the Trump administration's tenure, but also with the increasing cost of higher education in the United States. Adding to these problems have been the fractured geopolitical ties of the United States that have suffered with China, the largest country sending inbound international students as well as the economic decline of countries like India and many other international student sending countries that have suffered during the global pandemic. While many US higher education institutions and its international admissions team are hoping that in a post-pandemic world international student recruitment may go back to its traditional roots of international recruitment, the

evolving global political and economic pressures are looking to completely change the trajectory of international student recruitment. From budget cuts in higher education to virtual and digital recruitment becoming a key tool in international student recruitment, there seems to be a growing consensus among the international admissions body that in person visits will see major declines by university staff residing in the United States. However, this change will also give rise to focus on regional representatives as well as more US higher education institutions working with commission-based agents on the ground. Moreover, while much of the world still fights the global pandemic, it may take time for many US higher education institutions to understand and realize what will the international student recruitment look like in a post-pandemic world.

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Re-Inventing the Integration Between Formal, Non-Formal and Informal Education (After Pandemic Time)?

School-to-Work Transition in Italy and Romania: The Role of Education System

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ABSTRACT: *Italy and Romania have some of the highest rates of NEETs in the EU in recent years. It is a fact that this situation is a result of the interaction of individual, institutional and structural factors. One of these factors is the education system.*

The objective of this research is to examine the role of education in the trajectory of young people after leaving the education system and factors that influenced their exit from the educational system without attaining a university degree and their experiences as NEETs.

The data we will analyze are from the 2016 ad hoc module of Labour Force Survey «Young people on the labour market». This survey has the advantage of including several factors that are considered in the literature determinants for the educational and professional path of a youth: socio-demographic characteristics (gender, level of education), family background (family size, level of education of parents) and characteristics of the educational system (organizing education by levels and specializations).

The results of our research are able to support the exchange of best practices between countries, between institutions etc.

KEYWORDS: *Italy, Romania, NEETs, education system*

Introduction

The transition from school to the labour market is a complex process, sometimes long-lasting, with very different trajectories and results: for some young people the process leads to precariousness, marginalization and for others to success and socio-professional integration. What these young people have in common is the success or failure of the transition from school to the labour market through the education system. The phrase that «the school makes the difference» (Coleman, 1975) proves to have effects after leaving the educational system by young people: depending on the type of school they attend, depending on the diploma they obtain, the duration of schooling, young people find a job or get in NEETs (Not in Employment, Education and Training) category.

NEETs represent the category of population that is associated with a process of transition from school to the labour market marked by failure.

NEETs are characterized by a high level of heterogeneity, a wide variety of profiles and experiences (Yates, Payne, 2006): women and men, young people with high education and young people without education or with a very low level of schooling, young people from different socio-economic backgrounds, etc. Most studies on NEETs, but statistics say that education in recent years is the main reason that young people come into this category (De Luca et al., 2020).

The objective of the paper is to identify how education systems in the two countries – Italy and Romania – influence the transition from school to the labour market of young people aged between 15 and 34 years and led some participants to professional integration and others to the status of NEETs. Research questions we aim to answer are: how does the education system influence the transition process from school to the labour market? For those who renounced to attain a university degree, how does the reason for having left education before attaining a university degree affect the propensity to NEET status?

1. Theoretical and empirical background

In literature, there are many theories about the relationship between the education system and the transition from school to the labour market. Some of them are included in traditional approaches and others are considered modern approaches.

1.1. Traditional approaches

In the category of traditional perspectives are those approaches that link the organization of the education system in distinct channels to the organization of the labor market in manual and non-manual occupations. The central idea of this theory – C. Baudelot, R. Establet (1971), L. Althusser (1971), representatives of the working theory of capitalist relations; S. Bowles and H. Gintis (1976), representatives of the correspondence theory – agrees that young people attending vocational pathways are prepared for manual occupations and general education prepares young people for non-manual occupations.

Young people from socio-economic disadvantaged families (rural youth whose parents have a low level of education, large families) are in most countries over-represented in vocational education while young favored (parents with high level of education, families with a small number of members) are over-represented in general education.

The successive economic crises, the increase in the complexity of occupations have increased the pressure both on the education systems, causing them to become more and more accessible to wider categories of population and at the population level, forcing them to reach a higher level of education to get a job. The massification of education or its quantitative democratization (increasing the number of educational institutions, the number of places at all levels of education, diversification

of the training offer, etc.) had an effect on changing the strategies adopted by the population to maximize their chances of quality education and a successful transition to the labor market. Analyzing the phenomenon, some researchers (Lucas, 2001; Raftery, 1993; R. Delès, 2018) believe that competition between young people takes place not for access to education or to achieve a certain level of education but for attending and completing the most prestigious educational institutions, those more appreciated specializations or profiles and obtaining diplomas attesting to this fact – that ensuring a transition from school to the labour market as short and as successful as possible.

1.2. Modern approaches

One of the best known and most frequently used modern theories is that formulated by the French researcher Jean Vincens in the early 90s. According to Vincens (1997), the transition from school to work is a rational behavior to look for a job, characterized by the individual's decision to conduct a series of specific activities (organizes their time so they can search for a job, compares job offers, get in touch with potential employers, etc.) to find a job according to its project life. The perspective proposed by the French researcher is characterized by two essential dimensions of the analysis of the transition from school to the labour market.

On the one hand, it is about decisions – the individual's decision to look for a job – and specific actions that define the individual's behaviour (investigate, compare, set priorities, etc.). On the other hand, it is about understanding occupation as part of a life project. Getting a job is only one stage in the life of the individual, it is preceded by other actions (investment in education, for example) and continued with others (changing jobs).

2. Data and methodology

2.1. Data

Data come from LFS, the main statistical reference at European level on labour market and work conditions. In particular, we refer to the 2016 ad hoc module on «Young people on the labour market», which presented some unique informative source on the attitudes towards studies and work and the reason for having not attained a tertiary education.

We selected from the sample individuals aged between 15 and 34 years who are not in education in Italy and Romania and focused the analysis on those who have terminated their studies at most with the high school diploma. We excluded from the sample who attained tertiary education because the scope consists in verifying the effect on the probability of becoming NEET of leaving education without attaining a high level of education, controlling for the main reason for taking this choice.

2.2. The methodology

The study of NEETs determinants is based on a probit model, which allows us to estimate the probability of being NEET conditioned to a number of covariates supposed to affect this status. Besides the individual, familiar and environmental characteristics widely recognized by literature, we introduce those connected to the cause for which individuals have chosen do not continue their studies (the level of education attained was considered enough, difficulty of studies or lack of interest, costs of studying, a wish to start working, family reasons or health reasons) and the availability to move within country or to another country to find a job:

$$y^* = \beta X + e$$

where y^* is the probability of being in the status of NEETs, X is the set of individual and contextual characteristics and e the erratic component. Y^* is not observed and what is known is if the individual is NEET or not.

After that, as our main scope is to verify how each specific reason for having not attained a high level of education affects the probability to be NEET, through a bivariate probit model, we control for the joint probability of being NEET and the specific reason the individual dropped from education.

The model specification is the following one:

$$y_1^* = x_1^* \beta_1 + e_1$$

$$y_2^* = x_2^* \beta_2 + e_2$$

where the outcomes are specified as:

$$y_1 = \begin{cases} 1 & \text{if } y_1^* > 0 \\ 0 & \text{if } y_1^* \leq 0 \end{cases}$$

$$y_2 = \begin{cases} 1 & \text{if } y_2^* > 0 \\ 0 & \text{if } y_2^* \leq 0 \end{cases}$$

when $\rho = \text{Corr}(e_1, e_2)$ is statistically significant, there is a significant connection between the two factors and the bivariate probit has to be preferred to the estimation of two single probit models. Otherwise, the mechanism leading to leave education and the status of NEET/not NEET are not connected. As for the interpretation of the sign of ρ , a positive sign means that an unobserved variable has the same effect on both the probability of leaving school and on the probability of being NEET. Conversely, when ρ is negative, an unobserved variable creates «success» on one of the dependent variables (the reason for having left education) and «unsuccess» on the other one, reducing the probability of being NEET.

3. Some descriptive statistics

Before focusing on our restricted sample of low and medium educated (with at most high secondary school), we analyse our LFS sample composed by NEETs (unemployed or inactive) and non-NEETs in occupation (students are excluded), aged 18-34 years. In the analysis of our data, we chose to include the age category over 24 years. Our choice is in line with the conclusions of some researchers (Maguire, Thompson, 2007) who argue that the inclusion of only young people aged 16-24 is far too restrictive given that the problems facing this age group are common and after 25 years these young people are excluded from public policy measures. Many young people in the elderly cohort (25-35 years) who have left the education system are no longer found in school or vocational training systems, but neither in the labour market and yet are not included in the NEETs category. However, young people aged 25-35 still face the same challenges they had to face between the ages of 18-24.

To analyse the level of education we have taken into account a classification on three levels: low, medium and high but we considered those two categories specializations: vocational and scientific/theoretical. Analyzing the process of transition from school to work, this distribution by type of specialization helps us to investigate which of the categories of young people have a successful transition.

For the impact of social and family of origin effect on educational and socio-professional trajectory, we consider the level of education of the father as well as the size of the family, the degree of urbanisation and the region where the individual lives (NUTS 1 detail).

Furthermore, in order to understand the reasons why some young people choose short forms of schooling (vocational education) or even leave the educational system early while others choose the academic variant (theoretical education), in the analysis we will include some specific information concerning: the possible working experience during the studies, which allows us to measure the impact of professional experience on the transition; the attitude of young people towards work, measured by a variable on the perception of the possibility to change their domicile or country to get a job; finally, only for those who have attained at most high secondary school, we analyse our sample with respect to the reason for have renounced to university education: it may be due to factors related to financial resources (cost of studies), the health or family reason but also the interest/motivation for study or the desire to start working.

For the in-depth analysis of the approached issue, we will include in the research socio-demographic characteristics such as age, gender, and marital status.

We took into account the analysis of the socio-demographic characteristics (gender, degree of urbanization, social origin) in order to understand if in Italy and Romania they lose their impact at an equal level of education.

TAB. 1 – Descriptive statistics. Contraposition among NEETs (inactive or unemployed) and not NEETs (workers or students). Population 15-34 years old

	Not NEET		NEET	
	Romania	Italy	Romania	Italy
Status				
Employed	64.07	53.52	-	-
Unemployed	-	-	27.80	40.25
Inactive	-	-	72.20	59.75
Gender male	55.71	53.56	35.23	42.53
Civil status single	70.20	85.88	58.22	71.41
Level of education				
Low	35.51	38.27	44.21	39.66
Medium	48.25	45.30	48.18	47.48
High	16.22	16.44	7.5	12.87
	100	100	100	100
Vocational path (on total of medium ed)	77.92	61.43	77.87	76.45
Scientific field of study	31.93	18.55	30.05	16.37
Living with parents	62.18	72.91	50.21	62.48
Father's level of education ^(*)				
Low	21.24	47.84	41.10	67.29
Medium	68.38	39.68	55.79	26.56
High	10.38	12.47	3.12	6.14
	100	100	100	100
Large family (>4 components)	26.97	14.91	40.87	17.62
Region of residence				
RO1	25.80		25.55	
RO2	29.05		25.65	
RO3	26.49		28.56	
RO4	18.66		20.24	
North	-	47.01	-	28.44
Centre	-	19.89	-	15.77
South	-	33.11	-	55.79
	100	100	100	100
Degree of urbanisation				
Rural	36.16	23.57	21.68	34.07
Town	22.28	43.57	27.08	41.70
City	41.56	32.86	51.24	24.23
	100	100	100	100
Work experience during studies (%)	8.91	31.21	8.75	24.43
Reason for having not completed studies (only for low and medium educated who are not students)				
Highest level attained considered enough	31.75	14.98	25.32	13.46
Level of difficulty/no interest	10.30	0.84	11.89	21.18
Costs of studying	14.30	7.86	14.98	9.21
Wish start to work	30.68	68.55	11.83	37.71
Family reasons	8.70	6.22	23.93	12.78
Health reasons	0.70	0.85	3.71	1.49
Other	3.60	0.85	8.34	21.18
	100	100	100	100
Availability to move for a job				
Moved or willing to move within	10.00	6.70	20.05	16.63

their country				
Moved or willing to move to another EU country	0.76	4.79	0	6.00
Moved or willing to move outside the EU	0.12	13.60	0	13.52
Not moved or not willing to move	89.11	74.91	79.95	63.85
	100	100	100	100
Total	9,799.15	19,084.86	2,409.84	6,075.14

Source: Authors' ad hoc elaborations on Labour Force Survey data (2016).

In terms of the origin of social and family, most at risk of becoming NEETs are both in Italy and Romania, young people from large families (more than 4 members) and the level of education of the father is more than one medium. The impact of socio-familial factors is enhanced by the geographical and residential ones: the majority of young NEETs live in the poorer developed regions of the two countries and in cities. In both countries, the constant presence and support of the family alleviates the difficulties that young people face in entering the labour market and the high degree of instability in their early job careers (Bentolila, Ichino, 2006). The region in which they live does not offer them great chances to integrate professionally, the family support they benefit from, although very important, is insufficient to help them move to a region with more educational and professional perspectives but we notice that their willingness to move is also very low. The family in the case of NEETs is on the one hand the main support and on the other hand it is indicated as one of the main causes of educational and professional failure. A small percentage of Italian and Romanian NEETs are men and most of NEETs in both countries have civil status single.

The probit model for the probability of being NEET conditioned to the reason they have not continued their studies is focused on low and medium educated who are not studying (out from any education programme, therefore, they can be workers, unemployed or inactive but not students):

TAB 2 – Probability of being NEET for young people 15-34 years not students and with a low or medium level of education, conditional to a number of personal and socio-demographic characteristics

NEET	Italy	Romania
<i>Gender</i> (ref. female)	-0.859***	-0.764***
<i>Immigration background</i> (ref. no immigrant)		
EU immigrant	0.592	-
Extra-EU immigrant	0.063	-
<i>Level of education</i> (ref. 0-2 ISCED level)	-0.397***	-0.207***
Vocational path of education	0.067	-0.243***
Field of study (ref. not scientific)	0.024	0.142**
Years from the end of studies	-0.0003	-0.00009***
Age (ref- 15-24 years)	-0.311***	-0.306***
<i>Area of residence</i> (ref. South and Isles)/(Ro2 and Ro4)		
North-West	-0.482***	-

North-East	-0.508***	-
Center	-0.391***	-
Ro1		0.201***
Ro3		0.196***
<i>Degree of urbanisation (ref. rural area)</i>		
Town	0.003	0.110**
City	-0.005	-0.048
<i>Parents' level of education (ref. low education)</i>		
Mother medium educated	-0.127*	-0.069
Mother high educated	-0.098	-0.119
Father medium educated	-0.057	0.028
Father high educated	-0.103*	-0.002
Number of family members	0.148***	0.061***
<i>Reason for having not attained a high level of education (ref. other or not applicable)</i>		
Highest level of education was considered high enough	0.160**	-0.409***
Difficulty or failure of study to meet needs or interest	0.261***	-0.313***
The costs of studying	0.113	-0.351***
A wish to start working	-0.138***	-0.883***
Family reasons	0.636***	0.062
Health reasons	2.155***	0.930***
<i>Availability to move for a job (ref. no availability)</i>		
Moved or willing to move within their country	1.144***	1.345***
Moved or willing to move to another country	1.179***	-
<i>Willingness to have a long commute for a job (ref. no)</i>	2.357***	0.930***
Work experience during the studies (ref. no work-exp.)	-0.276***	0.020
Constant	-0.107	0.046
Pseudo R ²	0.492	0.276
Wald chi ²	2,173.03***	1,098.39
N	11,827	6,459

Source: Authors' ad hoc elaborations on Labour Force Survey data (2016).

Results show that the condition of NEET in both countries is mainly associated with females, to NYNA (not young, not adults, that is those older than 25 years), with a low level of education. In both countries, the region of residence strongly affects the probability of being NEET while living in a town increases this probability in comparison to the rural area only in Romania.

With reference to the familiar background, the parents' level of education and the family composition also affects this probability in both the countries while according to the reason for having not continued education, while the wish of starting work reduces this probability, family or health reasons strongly increases the probability of being NEET. Contrariwise, the lack of ambition acts in the opposite sense, increasing the probability of being NEET in Italy and reducing it, in Romania.

Finally, we included in the model information on the availability or the effective fact to move or to commute a long trip for a job. The coefficients

are positive and significant in both the countries, probably because most of those who are not NEETs have not moved for the job.

TAB 3 – *Coefficients of correlations between in the biprobit model for the probability of having left education for one of the specified reasons and the probability of being a NEET.*

<i>Reason for having not attained a high level of education (ref. other or not applicable)</i>	<i>Italy</i>	<i>Romania</i>
Highest level of education was considered high enough	0.024	-0.025
Difficulty or failure of study to meet needs or interest	0.096***	0.030
The costs of studying	-0.006	0.008
A wish to start working	-0.245***	-0.360***
Family reasons	0.259***	0.248***
Health reasons	0.861***	0.525***

Source: Authors' ad hoc elaborations on Labour Force Survey data (2016).

Table 3 reports the ρ correlation coefficients of the biprobit models estimated considering the probability of leaving education without attaining a university degree for one of the reasons already exposed and the subsequent probability of becoming NEET. Looking at these coefficients, we can see that when the reason for having left studies is the wish to start to work, this acts to reduce the probability of being NEET. Conversely, when the reason is linked to family or health reasons, the mechanisms acted in the same versus, increasing therefore the probability of becoming NEET. The same is only for Italy the lack of interest or difficulty met during the studies.

4. Discussions

Data (Tab 1 and 2) shows that the transition from school to the labour market varies greatly depending on the social and family environment of the origin of young people, the pathway education that followed it. The level of education reached by young people and the socio-familial environment also act on other important dimensions of the transition process from school to the labour market: the attitude towards school and work, the availability of professional mobility, etc.

In recent decades, education systems have become more accessible to all segments of the population but also more complex in structure and organization. The accessibility of some levels and forms of education often depends on the ability of the population to understand the mechanisms underlying the operation of this system and to select the best options. Some researchers believe that the «massified or democratized» education system forces both those from disadvantaged backgrounds and those from favoured socio-economic, family backgrounds to enter a «meritocratic» competition for which the former

lack the resources. However, those who lose the competition must take responsibility for their failures, because the school «game» is claimed to be egalitarian (Dubet, Martuccelli, 1996). When we talk about resources we consider not only the financial (financial capital), but also social capital (social networks), educational capital (level of education). The education system is a space that disadvantaged groups of people – parents with low level of educational and social capital are not familiar, do not know him well enough so choose pathways school supporting a successful transition to labour market or to correctly estimate the costs of education and the benefits generated by it (Boudon, 1973; Bourdieu, Passeron, 1964). Disadvantaged population groups orient their children towards a future that they consider accessible (Claes, Comeau, 1996): will opt to a greater extent for short forms of schooling convinced that this requires lower costs with education and earning income by entering work early. According to Furlong (2006), young people from disadvantaged families are more likely to regard vocational paths as a 'safer' option, which leads them to invest less in their education and ultimately increases their risk of becoming NEETs.

The association between the poorest regions of Italy (Islands) and Romania (North-East) and rural areas with a high proportion of NEETs is explained by a process of perpetuation inter-community transmission of poverty encountered in other EU countries (Vancea, et al., 2018): due to poverty, young people are excluded from the education and training system and reach the NEETs category; the exclusion of young people and the reduced chances of accumulating some form of capital (educational, social, financial) lead to an increase in the poverty of the community, the region to which they belong.

Although the explanatory mechanisms of these findings were unexplored, existing evidence suggests that this could be related to low aspirations transmission from parents to children (Heath et al., 2008). Referring to the role of aspirations, Duckworth and Schoon (2012) show that a high level of them has a positive effect in avoiding the status of NEETs. Thus, families become capable of action and the type of attitudes, educational and professional aspirations of individuals in that it can transmit educational and desire to succeed young professionally or on the contrary, it may discourage investment in education or their efforts to look for a job (Alfieri et al., 2015).

The data analyses by us (Tables 1 and 2) reflect the fact that young NEETs in both countries are considered to a greater extent as sufficient secondary level – at vocational or and scientific – compared to young non-NEETs.

The fact that some young people entered the labour market in parallel with school attendance, others started professionally after graduation and some have entered the category NEETs shows primarily different paths you can take to transition from school to the labour market. It is also observed that to a greater extent the young non-NEETs from both

countries gained professional experience during schooling compared to the young NEETs.

As Vincens (1997) mentions, LFS data reflect the difficulty of determining when the transition process begins and when it ends. The fact that at the time of data collection some young people found themselves in the situation of being NEETs, does not mean that this will be their status forever. The risk of staying in the NEETs category for a longer period is much higher for those from disadvantaged backgrounds. In the absence of economic and cultural support of the family, young people end up in a situation where they do not know how to look for a job, many lack the capacity for self-discipline, decision-making, skills and competences of time management (Swartz et al., 2012).

Finally, the consideration of the specific reason which induces young people to leave education without attaining a university degree (Tab 3) adds some interesting findings. When the declared motivation is connected to family and health reasons, the probability of becoming NEET increases. This outcome should induce us to reflect on the fact that people who come from disadvantaged social or personal contexts, increase even more their disadvantage when they finish studies. On the other hand, a number of studies (Swartz et al., 2012) have shown that, young people from disadvantaged backgrounds do not receive any family support but not at the school (counseling and educational and vocational guidance) so you end up not know how to look for a job, incapable of self-discipline, decision making, time management skills and competencies, etc.

Conclusions

Young people from Romania and Italy face different problems regarding the transition from school to the labour market. One such problem is education. Comparative analysis of statistical data led us to the following conclusions: (1) A high level of education is the best option to have the chance of a successful transition. Quantitative democratization of education systems in the two countries has not led, however, democratization of opportunities for access and success in education for all people. Unequal access and success in education entail inequalities in the transition from school to the labour market; (2) The participation of young people in education is affected by the financial difficulties faced by both the households they come from and the characteristics of the education system (differentiated education by fields, costs). Leaving school, regardless of the level of education at which it takes place, giving up looking for a job are the sure paths to perpetuating poverty and accentuating social exclusion;

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The Evaluation of Educational Credentials for Young Refugees Inclusion: An Explorative Research

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ABSTRACT: *In a historical moment such as this one marked by the COVID-19 emergency, characterised by the difficulty of access to resources for the inclusion of people with a migrant background, the need to rethink the actions that educational agencies must implement for the integration between the formal, non-formal and informal – also for the purposes of the recognition of educational credentials – strongly re-emerges (Merico, Scardigno, 2020). The process of recognition and subsequent validation aimed at migrants, in fact, «can increase participation in lifelong learning and access to the labour market» (Council of the European Union, 2012, 3; Souto-Otero, Villalba-Garcia, 2015, 588). Through the initial results of a critical review of the initiatives carried out in some North-East European countries, this contribution focuses on the experiences of validation of migrants' skills, highlighting the role played by the connection between formal and informal systems and of no formal education in the processes of integration and enhancement of cultural capital. The aim of the research work is to reconsider the value of lifelong-learning processes, through a 'polycentric' structure of the training system which is far from being consolidated, yet which is decisive for the cultural and professional integration of young migrants, who are 'challenging' the traditional education and training system. In order to pursue this aim, an analysis of the scientific and grey literature of reference has been carried out, querying online databases and international search engines. The measures taken and described in the European Inventory on validation of non-formal and informal learning show the importance of ensuring that recognition services should also be integrated with other forms of access to study and work, as migrants «are not a uniform group, but a very complex and heterogeneous one» (Clayton, 2005; Sainsbury 2006; Souto-Otero, Villalba-Garcia, 2015, 596). The reflections reached also show the importance of ensuring a more fruitful dialogue between local governments and civil society and also of implementing measures to support tertiary education, especially for young refugees, as several Italian universities have already experimented, valuing informal education and skills acquired especially in non-formal contexts.*

KEYWORDS: *Non-formal and Informal Learning, Skills, Migrants, Cultural and Professional Integration, Educational Processes.*

1. The role of non-formal-informal learning processes and validation of skills in the European context

The delicate pandemic period related to the COVID-19 emergency that we are currently experiencing and the difficulties in guaranteeing equal access to education and training for young migrants and refugees lead us to reflect on the importance of promoting adequate educational opportunities and spaces that foster better conditions for their inclusion and social participation. Globally, the COVID-19 pandemic has led not only to an economic and health crisis, but also to an educational and social crisis, which has affected educational relationships and the possibility of seeing learning opportunities reduced not only in formal educational contexts such as schools and academies, but also in non-formal and informal no-schooling contexts. This has significantly affected the acquisition and development of new skills or the consolidation of existing ones, increasing the risk of inequalities in access to educational programmes for migrant and refugee youth, due also to the limited number of material resources available to them and the implementation of support and accompanying measures to enhance their cultural background.

In a difficult time like the one marked by the current pandemic context, therefore, the educational needs of the refugee target group are emerging today even more strongly. Their main needs are related to the possibility of benefiting from educational opportunities and programmes that promote the integration of formal and non-formal-informal education, while at the same time enhancing the experiences gained in these contexts and the skills acquired over the years, in order to ensure greater employment opportunities.

The topic of non-formal and informal learning has already been the subject of attention in the European Political Agenda by the European Commission in 2001. Subsequently, thanks to the approval by Cedefop (European Centre for the Development of Vocational Training) of the *European Guidelines for Validating Non-Formal and Informal Learning* (2015), attention was paid to the valorisation of skills and competences acquired in any formal, non-formal and informal learning context. This vision is in line with the Recommendation on the validation of non-formal and informal learning of the Council of the European Union (2012), which places special attention on the most fragile and disadvantaged people, as they are «particularly likely to benefit from validation agreements, as validation can increase their participation in lifelong learning and their access to the labour market» (Council of the European Union, 2012, 3; Souto-Otero, Villalba-Garcia, 2015, 588).

Due to the high influx of migrants and refugees in several European countries, according to Ilona Murphy (2019) in the European inventory on validation of non-formal and informal learning «social and labour market integration services have become a policy objective at European and national level, attracting the attention and political action of governments

across Europe» (p. 4), also thanks to specific measures introduced in favour of social and professional inclusion for migrants and refugees.

As Souto-Otero and Villalba-Garcia (2015) state, starting from the assumption that each person mainly resorts to the validation of competences acquired in different learning environments for purposes related to professional and academic recognition (Souto-Otero, 2010), it follows that the possession of «certain qualifications, education, experience and/or skills necessary for the position(s) he/she is going to fill, can be a 'sine qua non' for an oriented entry into the labour market» (Souto-Otero, Villalba-Garcia, 2015, 588–589), but also for the continuation of studies interrupted in the country of origin.

2. The validation of migrants' and refugees' skills and learning: a systematic review of the validation processes of learning and skills

Starting from the awareness of how complex the panorama of learning validation is, the paper presents the first results of a critical review of the initiatives carried out at a European level, analysing which realities are involved in the validation process, with particular reference to the target group of people with a migrant background. The research activity undertaken foresees the realisation of a Systematic Review that, through the consultation of the scientific literature of reference, will reconstruct the panorama of the main lines of intervention on the evaluation processes of the competences of young migrants and their learning processes acquired in formal, non-formal and informal contexts, of which this paper presents an initial exploration.

The exploratory study was conducted in the period between December 2020 and April 2021, in which European good practices adopted towards the target migrants in higher-education contexts were collected, with particular attention to the opportunities, spaces and social actors involved in the processes of no-schooling. The research used the technique of keywords, inserting the words 'validation prior learning migrants' (research 1) and 'higher education migrants' (research 2), applying the timespan 2015–2020 and the European context as search filters.

The exploratory analysis was carried out in three phases and involved the use of international databases, search engines and direct consultation of the online platforms of some of the most important international journals on the topics of analysis. In the first phase, the International Database of the Taylor and Francis Publishing House was used, which led to the initial identification of 17 articles potentially relevant for critical analysis. The second research phase involved the use of another international educational research database ERIC and the Google Scholar search engine, in order to include an analysis of the 'grey literature' on the topic in the search. At the end of this phase, a further 17 articles and research reports were initially selected. The third and final phase aimed

to probe more deeply into the online platforms of the 43 scientific journals of the main international publishers on the topic of 'Higher Education'. Specifically, the publications of the publishing houses Taylor and Francis, Springer, SAGE Publishing, Elsevier and Wiley were consulted, and 54 potentially interesting research articles were selected. Overall, in the three phases of work, the first phase of research relating to the keywords 'validation prior learning migrants' produced 24 publications, while in research 2, 'Higher education migrants', over the course of the various phases of analysis, the research results produced 64 publications. Therefore, screening of the 88 selected publications was carried out, and then, thanks to a deeper reading of the texts, we arrived at the 'mapping' and final selection of four articles and two research reports, which turned out to be useful for our research.

It was, therefore, an initial exploratory research into the topic, capable of offering a contribution in order to re-think the educational practices and successful experiences implemented by other European countries, placing the value of lifelong learning processes back at the centre of attention and defining a 'polycentric' structure of the training system that reformulates the space and times of educational action.

This leads us to reflect on the importance of moving away from a traditional assessment process to a more substantial one that can enhance the value of non-formal and informal educational processes, but in order for this to happen, it is important to reconsider and enhance the value of learning places such as schools and universities, considering them to all intents and purposes as «deliberative arenas of argumentative confrontation» (Borghini, 2002, 25), able to accompany migrants in the delicate process of validating the experiential learning they have acquired.

3. The integration of educational practices and no-schooling: research results and international good practices

In the selection of bibliographic sources identified over the course of the exploratory research, although the available data were limited and not specifically related to the academic context, attention was focused on a small but exhaustive number of practices and experiences implemented over the last five years (2015–2020) by various European countries, which developed particularly significant validation experiences for people with a migrant background. Such studies may constitute important insights for the sociology of education in the debate on educational practices, also by virtue of the fact that several European initiatives have only recently been developed, «with many others in the 'pilot phase', making it difficult to establish an assessment of their impact» (Murphy, 2019, 5). In addition, there is the awareness that «EU countries do not see immigrants as a uniform category» (Souto-Otero, Villalba-Garcia, 2015, 601) and that the

need for retraining in one's studies and/or work path is independent from the possession of high qualifications acquired in one's country of origin.

Ilona Murphy, in her *European inventory on validation of non-formal and informal learning* (2019), promoted by the European Commission and CEDEFOP, describes the different systems and approaches of validation of non-formal and informal learning found at European level, showing how, out of 36 countries that are part of it, only seven of them (Austria, Belgium-Walloon, Denmark, Finland, Germany, the Netherlands and Sweden) stand out as examples of good practice in the conclusion of systematic validation agreements, aimed at recognising the skills and competences possessed by migrant and refugee subjects, acquired through different forms of learning. Among the most important experiences documented, it emerges in particular how some of them are more oriented towards the assessment and certification of skills, while others are directed towards access to education and training, using assessment methods and tools that recognise in particular all those transversal skills acquired in contexts other than formal ones.

In Austria, for example, there is the 'Du Kannst was!' initiative, which targets low-skilled workers, including migrants and refugees, to validate their professional skills acquired in non-formal and informal learning contexts. Over the course of the programme, as reported by Ilona Murphy (2019) in the *European inventory on validation of non-formal and informal learning*, «personal portfolios are created, with a focus on the most relevant skills relevant to a chosen profession» (p. 11), and at the conclusion of the activities carried out, a certificate is issued after passing a final examination. More in depth, among the Austrian initiatives promoted towards the unemployed migrant and refugee target group aged 18-30, of particular relevance is the 'Just Integration' programme, which strives to «support young people in accessing apprenticeship programmes» (Murphy, 2019, 12) through the identification of skills and competences acquired in formal, non-formal and informal learning contexts.

Among the German initiatives specifically targeting migrants and refugees with previous work experience, but lacking professional qualifications, it is interesting to dwell on 'ValiKom', which «allows migrants and refugees to assess and certify their skills and competences outside the formal education and training system» (Murphy, 2019, 12), working with local Chambers of Commerce that directly issue certificates upon completion of their activities.

In order to address emerging education and training, but also employment needs, interesting online tools are available such as 'MY SKILLS' (an initiative implemented by the German Public Employment Services) which takes the form of tests featuring 30 different vocational areas, using images and videos to assess the vocational skills of migrants and refugees, with the help of the my-professional-experience.org website.

Finland, through the 'VALMA' project, after an initial assessment of skills and competences acquired through non-formal and informal learning (lasting 6–12 months depending on training needs), offers young migrants and refugees applying for access to upper-secondary education the chance to enrich their education by acquiring new skills and competences, including language skills, and to improve their knowledge of existing work realities through seminars and company visits (Murphy, 2019). Like other countries that provide for the activation of reception, guidance and counselling services by offering support in accessing validation programmes, Finland has an active 'Supporting Migrants in Higher Education' (SIMHE) initiative, which specifically targets highly educated migrants, offering them the opportunity to identify and validate their experiential learning, «so that people can find their way to appropriate education and career paths» (Murphy, 2019, 14).

The Netherlands has been promoting activities based on the validation of migrants' non-formal and informal learning since the late 1990s. According to Murphy (2019), in the *European inventory on validation of non-formal and informal learning*, the measures put in place for the recognition of migrants' actual skills are based on the integration of the processes of assessing the international credentials possessed and the validation of non-formal and informal learning acquired (Scholten, 2007).

Among the initiatives on the topic promoted by the Danish government, it is possible to mention 'The Basic Integration education' (IGU) programme for refugees, which aims to «promote the use of validation and improve the recognition of skills and competences of migrants and refugees» (Murphy, 2019, 21), within which the process of validating non-formal and informal learning is included. The initiative involves the implementation of all stages of validation: identification, documentation, assessment (in which a test and practical demonstration of the skills possessed is used) and certification (Murphy, 2019). There is also the 'My Competence Portfolio' programme, which allows for the recognition of experiential learning, and which offers migrants the opportunity to highlight skills not yet achieved in order to redefine them within education and training processes.

Sweden has had a very high number of migrant refugees, especially Syrians, since the 1970s. The process of assessing qualifications in Sweden is entrusted to the Swedish Council for Higher Education, while employers play a key role in the recruitment process, with a particular focus on highly qualified refugees, who have a higher chance of employment than those who do not. However, as Per Andersson (2020) states, in the Swedish context, despite the fact that refugees often already have a high level of education such as a university degree and have work experience, their credentials are not immediately recognised, so validation procedures may take longer and the young migrant may need to continue their studies rather than find employment.

Particularly relevant to the practices of validating the competences and formal, non-formal and informal learning processes of migrants is the

'Snabbspåret' initiative, which highlights all those sectors (14 to be exact) where there is a greater demand for employment and a need to recruit more qualified people. The stages in which this programme, which involves a «mapping of competences» and «tests individuals on their knowledge, skills and competences against specific standards» (Murphy, 2019, 25), is developed in the validation process, consist of a first stage of identifying and highlighting the beneficiaries' competences and then assessing them.

At the academic level, there is also the Swedish experience of the Linnaeus University (LNU), which offers support actions to facilitate the integration of young refugees into the academic environment. The university operates mainly in the fields of education and research applied to social integration processes and aims to implement effective validation methods for the formal and informal competences acquired during work experience as soon as young migrants enter the country.

In Norway, we might also mention the work of the Norwegian Agency for Quality Assurance in Education (NOKUT), which supports the importance of sharing experiences in the provision of services to young refugees for the recognition and validation of acquired learning in the European and non-European context. The Agency promoted the implementation of an initiative aimed at all migrants who needed to obtain a statement of their educational background, even if this did not meet all the requirements for formal recognition of their qualifications.

4. Rethinking the roles of educational learning agencies and the validation of young migrants' competences.

In recent years, more attention has been paid to the processes of non-formal education and the importance in the knowledge society of their learning potential to help young people in particular to learn about their needs and strengths as they move towards adulthood.

The exploratory research carried out shows how in those European countries that stand out for having activated and/or consolidated measures and practices of integration of the educational processes in its multiple forms and learning contexts, awareness and 'confidence' are placed in the opportunities of validation in general, which is greater in all those countries where such – in addition to the phase of identification and documentation – validation also includes that of evaluation and certification of competences.

The practices and experiences discussed and implemented in Scandinavian countries support the idea of how the process of valorisation and recognition of the background possessed by young migrants, which translates into competences, skills and experiences that are not purely formal, as Richard Wanner (2001) stated, turns out to be a «central issue of immigration in the new century [...] in all post-industrial societies that welcome immigrants» (Wanner, 2001, 417; Souto-Otero,

Villalba-Garcia, 2015, 592), to the point of conditioning their process of social integration and professional affirmation.

It would be desirable, therefore, to adopt from the design phase of support policies towards particularly vulnerable groups such as young refugees, a 'bottom-up approach', with direct participation of individual beneficiaries, towards particular initiatives that require to be «sustained over time and to ensure their adaptation as part of coherent and transparent systems for the recognition of skills and experiential learning» (Murphy, 2019, 31). It is important, however, that government policies implement programmes that foster the integration of young migrants within social and professional networks which offer the possibility to interface more easily with the world of work, reasoning that it is possible to state that «labour institutions must play a significant role in promoting the integration of migrants» (Villa, 2018, 120).

The experiences reported in the paper lead us to reflect how migrant and refugee subjects «are not a uniform group, but a very complex and heterogeneous one» (Clayton, 2005; Sainsbury 2006; Souto-Otero, Villalba-Garcia, 2015, 596) with consequent potential for differentiation. In fact, the implementation of validation processes of non-formal and informal competences and experiences in various European countries reveals its complexity and difficulty in guaranteeing the same conditions of access, depending on the possession or not of educational credentials and consolidated national governmental policies in the professional field. As a result, migrants with higher qualifications have easier access to the labour market and can have their skills recognised by employers. This would contribute to a «polarisation in the recognition of knowledge, skills and competences between the 'highly qualified' and the 'non-highly qualified'» (Souto-Otero and Villalba Garcia, 2015, 600). However, the focus on these issues leads to the assertion that recognising non-formal and informal learning can be instrumental in «helping individuals to be closer to the needs of the knowledge society» (Scardigno et al., 2019, 19).

The direction to be taken, therefore, is fundamentally based on the «need to build a collaborative approach, considered indispensable for tackling the problems linked to the growing international migratory movements» (Gjergji, 2016, 15) that characterise our society, pursuing network actions that encourage a fruitful and constructive dialogue between the various educational agencies that contribute to the recognition of learning processes and the acquisition of skills.

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We Are still Here! School-Vet Alternance between Engagement and Dropout Risk. Evidence from European Practices during the COVID-19 Pandemic

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ABSTRACT: *COVID-19 pandemic has triggered an educational crisis which has imposed a rethinking of traditional educational methods towards new teaching spaces and times. The reflection on disadvantage groups has assumed a crucial role in the scientific debate, requiring new perspectives of analysis. In the field of educational policies, the pandemic has imposed a macro-level redesign, requiring a review of existing programs, both at national and international level, in order to address the new needs arising. The paper aims at describing the remodelling of the «Young in and up» project which main goal is the inclusion of young people with a migratory background in school-VET alternation paths. The authors will develop a critical reflection on the new tools and strategies implemented by the partners, in order to face the new challenges rising from the pandemic. The study was conducted through qualitative tools and methods (focus group and evaluative brainstorming) in order to answer to different research questions. The results will offer a multilevel reading both from a pedagogical and organisational point of view, through students, teachers and stakeholder perspective.*

KEYWORDS: *ELET; pedagogical strategies; education engagement; vulnerable young people; youth programme; VET; COVID-19 Pandemic*

Introduction

F w t k p i " v j g ' E O X K E / 3 ; " r c p f g o k e . " v j g " u e l g p v k e " e q o o w p k v { " v j c v ' d g r q p i u " v q " u e k e q r q i { " q h ' g f w e c v k q p ' j c u ' q r g p g f " c ' d t q c f " f k r q i w g " q p ' i r q d c r ' g f w e c v k q p . " { q w j " g f w e c v k q p c r ' p g g f u . " p g y " c p f " q r f " k p g s w c r k u g u ' t k u k p i " h t q o " v j k u ' e t k u k u 0 T g h r g e v k p i " q p ' x w r p g t c d r g { q w p i " r g q r r g ' c r u q ' t g s w k t g u ' v q " j c x g " c " r q q m ' v q " v j g " p c v k q p c r ' c p f " v t c p u p c v k q p c r ' R t q i t c o u ' c k o g f " c v ' c e m k p i " G N X G V " c p f " k p e r w f g " u r g e k t e ' i t q w r u " k p " u e k e g v ' 0 "

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kp'vj g'hqny kpi "r ctcj tcr j 'y g'y knif guetldg"j qy "hqto cr'cpf "kphqto cr' gf wecvkqp'tgcev'va"vj g'ej cpi gu'qeewttgf 0Vj g'tgugctej "j cu'dggp"ecttkgf " qww'vj tqwi j "swcrkcvkxg"i tqwr "vgej plsvgu" *hqewu"i tqwr "cpf "gxcrcv'kxg" dtckpuxqto kpi "+cpf "vj g'tguwru"vj cv'go gti gf "ctg"r tgrto kpcct{ ."r ctv'qh'c" tgugctej "uwn'kp"r tqi tguu'0Vj g'cwj qtu'y knif gxgrqr "c"etk'ecr'ng'gevkp"qp" vj g'pgy 'vaqnu'cpf 'utcvgi kgu'ko r rgo gpv'gf 'd{ 'vj g'r ctvpgtu.'k'qtf gt'va'tceg" vj g'pgy "ej cmgpi gu'tkukpi "htqo "vj g'r cpf go k0

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1. Theoretical background

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2. Schools and VET alternance during the EQXIF /3; pandemic

Dg l q p f " v j g " h t q o c n ' g f w e c v k a p . " c r u q ' p a p / h t q o c n ' c p f ' k p h t q o c n ' r g c t p k p i u " * K G 0 x q e c v k a p c n ' c p f " g f w e c v k a p c n ' v t c k p k p i " r t q i t c o u + j c x g " v q " h e g " c " t g u j c r g " q h ' c e v k k l g u 0 ' k p " v j k u " r c r g t " y g ' y k n i f g u e t l d g " v j g " c p c r l u k u " e q p f w e v g f . " v j t q w i j " s w c r k c v k x g " o g v j q f u . " q p " c " v t c p u p c v k a p c n ' r t a l g e v ' p c o g f ' l q w p i " k p " c p f " V R " k p v g i t c v g f . " w p k g f . " r t a q c i q p k u u 0 ' N n g " o c p z " q v j g t " p c v k a p c n ' c p f " k p v g t p c v k a p c n ' r t a l g e w . " k y c u ' p g e g u u c t z " v q " t g h t q o w r e v g ' k u ' o c p f c v g ' c u ' y g n l c u ' k u ' r g f c i q i l e c r n d c u k u . " k p " q t f g t " v q " e q o r r l " y k j " v j g " t w r g u ' k o r q u g f " d z " v j g " j g c r j " g o g t i g p e z 0

Vj g " r t a l g e v ' y c u " h q w p f g f " y k j k p " v j g " H C O K ' r t a i t c o " * K c r i c p " C u z n w o . " O k i t c v k a p " c p f " k p v g i t c v k a p " h w p f + " h k p c p e g f " d z " v j g " O k p k u m z " q h ' v j g " k p v g t k a t . " r g c f g f " d z " a V E T c e n t r e a n d s o c i a l e n t e r p r i s e " d c u g f " k p " V w t k p " * K + 0 V j g " k p k l c r n ' q d l g e v k x g u ' y g t g " v j t g g < k p e t g c u g " u e l c r n ' k p v g i t c v k a p " k p " v j g " v c t i g v ' e q o o w p k l " * z q w p i " r g q r r g " h t q o " u g e q p f c t z " u e j q q n u " r c v j u " c p f " e g p v t g u " h a t " c f w n u " g f w e c v k a p " E R I C + " k p " q t f g t " v q " r t g x g p v " G N G V = " r t q o q v g " k p p a x c v k x g " k p v g t x g p v k a p u " k p " q t f g t " v q " k p e m f g " z q w p i g u v ' c p f " h o k r i g u ' y k j " o k i t c v q t z " d c e m i t q w p f = g z r c p f " c p f " e q p u q r k f c v g " c " v t c p u p c v k a p c n ' e q o o w p k l " d g v y g g p " G W " E q w p v t k u " * R a t w i c n " K c r l . " D g n k w o . " l g t o c p z . " H t c p e g + 0 ' F w t k p i " v j g " r t a l g e v . ' 8 ; " u w f g p u ' y k j " o k i t c v q t z " d c e m i t q w p f . ' 3 2 ; " v g c e j g t u " c p f " v t c k p g t u " * v j t q w i j " G W " r c t v p g t u + " 3 4 " k c r i c p " u g e q p f c t z " u e j q q n u " j c x g " d g g p " k p x q r x g f " y k j " v j t g g " o c k p " c e v k k l g u <

- 452" j q w t u " q h ' U e j q q n " X G V " c n g t p c v k a p " r c v j u " e c t t l g f " q w w ' k p " f k u c p e g " r g c t p k p i " o q f g
- : 2" j q w t u " q h ' k c r i c p " u g e q p f " r e p i w c i g " * N 4 " h t q o " p q y " q p + " r e d a t c v a t k u " k p " f k u c p e g " r g c t p k p i " o q f g
- V t c p u p c v k a p c n ' o g g v k p i u " k p " q t f g t " v q " h c x q w t " e q o r c t k u a p " c p f " f l e r a j i w g " q p " r t c e v l e g u " c p f " g z r g t k g p e g u

Vj g " E Q X I F / 3 ; " r c p f g o l e " j c u " l o r q u g f " c " o c e t q / r g x g r l t g f g u k i p " d g e c w u g " c n l v j g " c e v k k l g u " r r e p p g f " k p " v j g " e r c u u t q q o " j c x g " d g g p " t g u e j g f w r g f " k p " q p r i k p g "

o qf g.'y kj "vj g"kpcedkkl "vq"vug"vj g"r tqhguukqpcrnlredqtcvqtkgu"r tqxkf gf "d{ "vj g"tqwpf cvkqp."k"qtf gt"vq"gzr gtlgpeg"vj g"r tqhguukqpcrnlqdu0Vj g"tguj cr g" cnuq" ko r qugf "c"tgxkgy "qh"vj g"gzkukpi "gxcnrcvkap" r rcp"vj cv"j cu"dgpp" f guki pgf "d{ "EP T/KTEtGU0Vj g"vug"qh" f kuvpeg" r gctpkpi "o qf g"cpf "vj g" tguj cr g"qh" kpvgtxgpvkapu" dtkpi u"y kj "k"vj g" ko r quukdkkl "qh" eqmgevpi " swcrkl " f cvc" y kj " c" eqwpvgthcewcrnl o gvj qf qrci { " cu" y cu" qtki kpcrnl " kpvpgf gf + "hqt"vj ku"tgcuqp"kw/y cu"pgeguuct{ "vq"tgpgi qvkvj"vj g"gxcnrcvkap" f guki p'y kj "vj g"O kpkut{ "rgcplpi "vay ctf u"vj g"vug"qh"swcrkcvkxg"o gvj qf u" hqt" qwt" tgugctej 0'Cu"y g"y kn' f kuwuu" kp" vj g" hqmqy kpi " r ctcj tcr j . "y g" f gekf gf "vq"kpvgtxkgy "vj g"dgpghekctkgu"vj tqwi j "wy q"o ckp"o gvj qf u"l'qewu" i tqwr "cf o kpkutcvgf "vq"vj g"r tqlgev"rgcf gt)"o cpci go gpv'vgo "cpf "vq"vj g" r wr ku" kpxqrxgf =cp" gxcnrcvkvxg" dtckpuvqto kpi "eqpf wevgf "y kj "vgej gtu." vtckpgtu" cpf " vtckpgtu" kpxqrxgf 0' kp" vj ku" r tgnk kpcct{ "y qtn'y g"y kn' qprf " eqpegpvkvj" qwt" f guetk vkapu" qp" vj g" cpcrf uku" eqpf wevgf " qp" kcrkcp" dgpghekctkgu"rgcxkpi "culf g."hqt"vj g"o qo gpv."vj g"eqo r ctkuqp"qh'r tcevegu" y kj "hqtgki p"r ctvpgtu" kpxqrxgf 0

3. Research questions and methodological approach

Fwtkpi "vj g"EQXIF/3; 'r cpf go le.'uej qqrn'cpf "gf wecvkqpcrnlkpuvkwkqpu"j cxg" vj g" r quukdkkl " vq" tghgev" cpf " xgtkl{ " vj g" gpi ci go gpv' utcvgi kgu" ko r ngo gpvgf "k"qtf gt"vq"vcemg" GNGV" co qpi " Gwtqr gcp" { qwpi " r gqr rg" y j lej "f wtkpi "vj g"j gcnj "go gti gpe{ "tkun"vq"dgeqo g'gixgp"o qtg'xwrgtcdmg0 Ceeqtf kpi "y kj "vj g"rvgtcwtg."ugxgtrn'swcrkcvkxg"tgugctej "uwf kgu"uj qy " vj cv'gf wecvkqpcrnlkpuvkwkqpu"o c{ "uki pklcepvr{ "vcemg"vj g"tkun"qh"GNGV"d{ " cf qr vki " egtvckp" r tcevegu" vj cv' Gwtqr g" 4242" Utcvgi { 150" gzer hekvr " gpf qtugu0Vj gug"r tcevegu"ng"kp" gctrf "y ctpkpi "u{ ugo u."uwf gpv"htkpgf rf " uej qqr' qti cplkvkqp." ectgg" i wlf cpeg." kphqto crnl gf wecvkqp" r cvj y c{ u." uqekq/go qvqpcrnlcpf "dgj cxkqwtcrnlur r qtv'cpf "f wcrnlrgctpkpi " r cvj y c{ u0 Cf f klqpcrnl." cngtpekvxg" rgctpkpi " r cvj y c{ u" qhgp" eqpxkpeg" r wr ku" cv' f tqr qw"tkun"vq"tguctv'gf wecvkqpcrnlcpf "vtckpkpi "eqwtugu"*Xcp"J qwwg."Xcp" O cgrg."4234=Rtcci "gv'cr0"423: =Tco drc."423: +0F wtkpi "vj g"r cpf go le"vj g" kphqto crnlgf wecvkqp" r cvj y c{ u"dgeco g'gixgp"o qtg"pgeguuct{ "dgecvug"qh' ku"rgzldkl "vq"cf cr v"vq"vj g"pgy "ej cmgpi gu0

Fwg"vq"vj g"tgf ghkpkqp"qh"vj g"r tqlgev."y g" kpxguvi cvg"j qy "vj g'l qwpi "k" cpf "Wf "Rtqlgev"j cf "vq"o qf kl{ "dqj "vj g"o cpci go gpv'cpf "qti cplkvkqpcrnl

¹⁵⁰ The Europe 2020 strategy has set the goal to reduce to 10% the rate of 18- to 24-year-olds leaving education and training. The European Commission has published an assessment of the effectiveness of policies and practices developed since 2011 at the EU and national levels to tackle early school leaving in 37 European countries. The study shows that the impact of EU policy instruments is largely positive across the countries examined. On average, the rate of early school leaving decreased from 13.4% in 2011 to 10.2% in 2019 across Europe (EU, 2019).

utcvgi { " cpf " vj g" r gf ci qi lecn' o gvj qf qraqi lgu" f guki pgf " hqt" vj g" vcti gv' i tqwr 0Vq" f q" vj ku." vy q" tgugctej " svguvqpu" y gtg" tghqto wrcvfg < *Which organisational innovation have been implemented in order to fit to the new didactic spaces and times?* " *Which new pedagogical plans have partners put in place to encourage the engagement of the most vulnerable students involved in the project and to avoid ELET?*

Cu" cpvlekr cvgf . " y g" ej qug" vq" kpxguvi cvg" vj g" tgugctej " svguvqpu" y kj " svwrcvkvxg" cpf " r ctvlekr cvqt{ " tgugctej " o gvj qf u. " y kj " vj g" o cpci go gpv' vgc " * qti cplucvkvpcr' utcvgi lgu+ " cpf " y kj " vgej gtu" cpf " vtclpgtu" kpxqrxgf " kp" vj g" r tqfgev' * r gf ci qi lecn' utcvgi lgu+ " kp" qtf gt" vq" cpcrf ug" vj gug" f ko gpukqpu. " y g" wugf " i tqwr " vgej plsvgu. " ecr cdrg" qh' dtkpi kpi " qw' vj g" r qkp' v qh' xlgv " cpf " r gtur gev' xg" qh' vj g" r ctvlekr cpw+ " c" h' qewu" i tqwr " y kj " vj g" r tqfgev' rgcf gt" cpf " y kj " vj g" r wr ku" kpxqrxgf = " cp" gxcrcvkvxg" dtclpuvqto kpi " y kj " vtclpgtu" cpf " vgej gtu" kpxqrxgf " kp" vj g" r tqfgev' 0Y j krg" vj g" h' qewu" i tqwr " ku" y kf grf " wugf " kp" svwrcvkvxg" tgugctej " * O gtvqp" gv' cr0 " 3; 78+ " k' ku" y qtvj " vq" f ggr gp" vj g" ugeqpf " vgej plsvg" wugf " d{ " vj g" tgugctej " vgc 0Vj g" Gxcrcvkvxg" dtclpuvqto kpi " ku" c' vj tgg" r j cugu" i tqwr " vgej plsvg" etgcvgf " vq" eqpegr wcrf g" cpf " r tqdrgo cvk' g" c' r j gpqo gpqp" qt" c' r tqi tco " y kj " vj g" r tlo ct{ " qdlgev' xg" qh' dtkpi " qw" uqelcr' (cevqtu)" r gtur gev' xg" cpf " r tqf welpi " c" ugv' qh' lecvgi qtlgu" 1' f ko gpukqpu" 1' kpf kecvqtu" tgrcvgf " vq" vj g" vqr le" cpcrf ugf " * Dg| | k" 4235= Dctvqrkpk" 4238+ 0Vj g" gxcrcvkvq" dtclpuvqto kpi " r wtr qug" eqpegrpu" vj g" r quukdrf " qh' ugo cpvlecrf " gzr rqtkpi " c" eqpegr v' vj tqwi j " cp" kpf wcvxg" o gvj qf = k' ku" cp' gxcrcvkvq" qh' vj g" ercuule" dtclpuvqto kpi . " dgecvug' k' kpxqrxgu" c" eqo r rgz" cpf " ceewtcvg" r j cug" vj tqwi j " y j lej " r tqeguulpi " vj g" kf gcu" r tqf vegf 0' Htqo " c" o gvj qf qraqi lecn' r qkp' v qh' xlgv . " chgt" vj g" h' tu" v' etgcvkvxg" r j cug" kp" y j lej " cnr' ctvlekr cpw+ " ctg" kpxkvgf " vq" gzr tguu" vj gk" qr kpkp" htggrf . " vj g" gxcrcvkvxg" dtclpuvqto kpi " eqpuku" qh' c" ercuul' h' lecvkvq" r j cug" kp" y j lej " vj g" tgugctej gt. " vqi gvj gt" y kj " vj g" i tqwr . " eqngv' y qtf u" cpf " r j tcugu" y j lej " Dg| | k" * 4235+ " f ghkpgf " utkpi u" * uj ctgf " r kpi wkuve" eqputwcvkvqpu+ " kp" uj ctgf " ercuugu 0Vj ku" ku" vj g" etwlecr' r j cug" qh' vj g" gxcrcvkvxg" dtclpuvqto kpi 0Vj g" f ghkpkvq" qh' ercuugu" qt" f ko gpukqpu" f qgu" pqv' cng" r rceg" a priori" dw' k' ku" vj g" i tqwr " vj cv' r tar qugu" pgy " ci i tgi cvkvqpu" f wtkpi " vj g" cpcrf uku" qh' gcej " utkpi 0Vj g" vj kf " r j cug" ku" vj g" u' pvj guku. " vj g" i tqwr " o cng" u" c" tgxlukq" qh' ercuugu" go gti gf " cpf " o cng" u" h' tvj gt" ej qllegu" vq" r quukdrf " etgcvg" o qtg" eqj gtgpv' cpf " ur gek' h' e' u' wdecvgi qtlgu" vq" cf f . " vq" eqttgev' qt" vq" f grvg' utkpi u0 Vj g" f ko gpukqpu" kf gpv' h' gf " vj gtghqg" tgr tgugpv' vj g" tguwv' qh' c" r qpi " cpf " r ctvlekr cvqt{ " r cvj " dcugf " qp" eq/eqputwcvkvq" cpf " uj ctkpi " qh' gcej " uvg" r dgw ggp" vj g" tgugctej gt" cpf " vj g" i tqwr " kpxqrxgf 0' Hkpcrf . " k' uj qwrf " dg" pqv' legf " vj cv' i tqwr " vgej plsvgu" r tqf veg' tguwv' y kj " cp" hic et nunc" xcrf k' . " k' g' 0' xcrf " hqt" vj cv' i tqwr " cv' vj cv' lo g" * Dctvqrkpk" Nci qo ctukpq. " 423; +0

The dimensions emerged

Kp" vj ku" r cr gt" y g" y kn' tgr qtv' uqo g" r tgrko kpcr{ " tguwv' go gti gf " htqo " vj g" h' qewu" i tqwr " y kj " vj g" o cpci go gpv' vgc . " y g' y kn' tgr guetldg' vj g" r gf ci qi lecn'

utcvgi lgu"vj cv"go gti gf "htqo "vgcej gtu"cpf "vtckpgtu"cpf "y g'y kn'cpcrf ug" r wr ku)"r gtegr vkqp0

Vj tqwi j "vj g"tqewu"i tqwr 'y kj "vj g"o cpci go gpv'vgco . 'y g"cpcrf ugf "vj g" tguj cr g"qh'vj g"r tqlgev'f wg"va"vj g"EQXK/3; "r cpf go keOY g"uvtv'f "htqo "c" uklo wruu" clo gf " cv' kpxguki cv'pi " cpf " cpcrf ukpi " y j cv' j cr r gpgf " cv' o wnkrgxgn' i qxgtpcpeg" chgt" vj g" r cpf go ke" qwdtgcme' *How did you redesign the project due to the pandemic, in order to meet the requirements of the Ministry and to keep the pupils engaged?*

Htqo "vj g"dgi kppkpi ."c"ergct"i cr "go gti gu"dgy ggp"vj g"kpukwkwqpcr' tgsuktgo gpw"O kpkut{"qh'vj g"kvgtkqt+cpf "vj g"qdlgev'xgu"cpf "r quukdkukgu" qh'vj g"o cpci go gpv'vgco Ovj g"o cpci go gpv'vgco "j cf "va"v'pf gtucpf "j qy " va"v'ug"vj g"geapqo lgu"qh'vj g"r tqlgev'cpf "j qy "va"i wctcpvgg"vj g"ucrt{"va" vj g"r tqhguukqpcnu'kpxqrxgf "kp"vj g"r tqlgev'0kp"qtf gt"va"teeg"vj gug'ej cm'pi gu" cpf "i kxg"eqpv'kwk{"va"vj g"r tqlgev."vj g"o cpci go gpv'vgco "j cf "va"o cm'pi uqo g"f gekukqpu'etgcvg"u{pgti lgu'y kj "qvj gt"kvgtpcr'r tqlgevu"va"gpj cpeg" j wo cp" tguqwtegu"cpf "i wctcpvgg"vj gkt"tgo wpgtcv'qp."dw"o quv'qh'cm" kpxguv'cm'vj gkt"gpgti lgu"kp"o ukpi ng"cevkp'uej qqrly qtn'cnvgtpcv'qp"ht" {"qwp"i "r gqr ng'y kj "c"o ki tcv'qt{"dcem' tqwpf . ngcxkpi "culf g"vj g"qvj gt"vy q" qdlgev'xgu"f guetkdgf "ugg"r ctO4+Ovj g"o cpci go gpv'vgco "tgcrt' gf "vj cv'k' y cu"pgeguuct{"va"i kxg"o qtg"ngz kdkk{"va"dgwgt"tgur qpf "va"dgpghekt'kgu)" pggf u"cpf "va"etgcvg"uqo g"vaqru"va"cxqkf "GNV"cpf "nggr "r wr ku"gp"i ci gf O Cv'htuv."vj g'f gekf g"va"f q"cf ki kcn'egpuu"va"o cpci g"vj g'f ki kcn'f kxkf g"qh' r wr ku" cpf " qhtgt" vj go " vaqru" ht" tgo qvg" nguuqpu" cpf " cevkxk'kguO Uwdugs wgpvr'."vj g"r tqlgev'o cpci gtu"f gxgrqr gf "c"ngctkpi "cuuguu gpv' vaqr'clo gf "cv'o qpkat'kpi "cpf "uklo wrcv'pi "vj g"o qv'xcv'qp"qh' qwp"i "r gqr ng" cpf "eqpuqr'f cv'pi "vj g"tgr'v'qp'uj k' 'y kj "vj g"uej qqr'0kp"vj ku"ugpug."k'y cu" pgeguuct{"ht"vj g"o cpci go gpv'vgco "va"kvgtxgpg'y kj "eqpetgvg'kpk'cv'xgu" vj cv'hcxqwtgf "vj g"r ctv'ek cv'qp"qh'uwf gpw."cxqkf kpi "vj gkt"kuqr'v'qp0

Vj tqwi j "vj g"gxcr'wcv'xg"dtckpuv'qto kpi "y g"lpxguki cvg"vj g"r gf ci qi lecr' utcvgi lgu" cpf " r tceve'gegu" ko r ngo gpv'gf " d{" " vgcej gtu." vtckpgtu" cpf " r tcevk'v'qp'gtuOvj g"htuv'r j cug"qh'vj g"gxcr'wcv'xg"dtckpuv'qto kpi "k'ku"htgg"cpf " j cu" vj g" r vtr'qug" qh' eqng'ev'kpi " k'htato cv'qp"y kj " tgur gev' va" vj g" pgy " cr r tqcej gu" go r r'q'gf " kp" qtf gt" va" i kxg" cpuy gtu" va" vj g" ej cm'pi gu" qh' EQXK/3; "r cpf go keOY j kv'vj g"r ctv'ek cpw'g'zr tguu'vj gkt"r qkp'v'qh'x'kg'y "qp" vj g"uwdlgev."vj g"tgugctej gt"o ctm'u"vj g"r j tcugu"cpf "y qtf u"qp"vj g"r quvgt" cpf "vj g"qdugtxgt"nggr u'vtcent'qh'vj g'i tqwr "f { pco leu0

Kp"vj g"ugeqpf "r j cug."vj g"tgugctej gt"tgcf u'y kj "r ctv'ek cpw'vj g"utkpi u" cpf "vj g'y qtf u'y tkwgp"qp"vj g'r quvgt."kf gpv'htgu"cpf "cuuki p'ux' o dqr'u"va"gcej " eqpegr v." cpf " eqf g" vj go " d{" " o gcpl'kpi " qt" eqo o qp" ctgc." gxgpw'cm'f ." u' o dqr'u"ctg" vtcpuh'qto gf "kp"ur gek'he" f ko gpuk'apu0 kp" vj g" vj kf "cpf " ruv' r j cug."vj g"tgugctej gt"vtcpuet'kdgu"ci ckp"vj g"utkpi u"cpf "vj g'y qtf u'y kj kp" vj g"go gti gf "f ko gpuk'apu."y j lej "vj g'tgh'atg"tgr tgugp'vj g"uwd/f ko gpuk'apu" cpf "r qvgp'v'cr'kf lecv'atu0 Cv'vj g"gp'f "qh'vj g"r tqeguu."vj g"tgugctej "vgco " uj ctg'vj g"qtf gtgf "ercuuk'hecv'qp"qh'vj g'ecv'gi qtkgu"cpf "tgcf "vj g'utkpi u"cpf " vj g" eqpegr vu" kpugt'v'gf " kp" vj g" xct'k'wu" ercuugu0 Rctv'ek cpw" ecp" dgwgt" eqpegr wcr'k' g'y j cv'ku"uj ctgf "kp"vj g"gctrf "uci gu"qh'vj g'y qtn'0kp"vj ku"r'api " cpf "ctv'ew'v'gf "y qtn'qh'r ctv'ek cv'qt{"cpcrf uku."vj g"r ctv'ek cpw'ctg"cdng"va"

tgrevkqpcrncur geu<Gpj cpego gpv'qhf ki kcr'vqqu=nggr kpi 'vj g'tgrevkqpuj kr =
 r tkqtka "qh'gpi ci go gpv'tgeqxtg{ "qh'cdugpegu"cpf "f tqr "qwu=cdkka "va"
 tgur qpf "va'tgsvguu"htq"j gr =cdkka "va"cf cr v'cpf "ej cpi g=gpj cpego gpv'
 qh'ugr/ectg"cpf "dgcw=gpj cpego gpv'qhv'j g'r tgugpv'cpf "vj gkt'f ckr{ "rtg=
 gpj cpego gpv'qhr'wr kru)"r tqvci qpkuo OVj g'tgrevkqpuj kr "etgcvf "y kj "vj g"
 r wr kru"uggo u"va"dg"dcugf "qp"o wwcrl'vwu'cpf "vj g'f guktg"va"o cng'vj go "
 hgr'r tqvci qpkuu'gxgp"kp'f k'hevw'gu< Cnuq"kp'vj g'Kcr'cp'ugeqpf "rcpi vci g"
 vgej kpi "eqwtug'y g'j cf "va'tg/o qv'xcv'vj g'r wr kru "Kvqr'vj go 'vj cv' vj g'
 y gtg" o cni " j kvqt{ , they had to understand that they were the
 protagonists of something that had never been seen before» *Nwi k"
 vgej gt+0

Vj g'tgcr'utgpi vj "qhv'j g'r tqlgev."j qy gxgt. 'y cu'vj g'tgwtp"qh'f'ceg/vq/f'ceg"
 eqwtugu."gxgp'y j gp'vj g'uej qqr'eqpv'kwgf "va'vgej "cv'kp'F'No qf g< K'f'ceg/
 va/f'ceg'vgej kpi 'y g'vaqm'kpur kcv'qap"htqo "vj g'g'zr gtlgpeg."vj gp "y kj "vj g"
 eco gtc"qhf'k'y cu'f k'hevw."vj gtg'y cu'pq"eqpcev "K'pggf gf "va"i gv'vj go "
 qw'qh'j ldtgpcv'qap "K'wugf "vj gcv'tg"gzgtekugu."y kj "dqf { "cpf "xq'leg"y g"
 y kpguugf "c" tgcev'xcv'qap" htqo "c" eqtr ug" va" c" j wo cp" dgkpi *Hcpeq."
 vgej gt+OVj g'cdkka "va'tgur qpf "cpf "va's wlemf "cf cr v'va'vj g'r tqi tguu'qhv'j g"
 r cpf go le" cny gf "vj g"XGV" egpvtg"va"tgwtp"va" htqpcr'rguuqpu."dgh'gtg"
 r vdr'uej qqr'OVj gug'fgcwtgu'i kv'va'vj g'uwf gpw'vj g'qr r qtwpk'va"rgctp"
 kp" c" uchg" cpf " uwkcdng" r r'ceg." tgeqxtgkpi " uqekrka " cpf " f'ceg/vq/f'ceg"
 rcpi vci g'r tcev'eg."vj cv'ku'xgt{ "ko r qtvcp'htq"uwf gpw'y kj "c" o ki tcvqt{ "
 dceñ tqwfp 0

Htqo " dqv' " vj g" cpcr'uku" qh' vj g" h'ewu" i tqwr " cpf " vj g" gxc'ncv'xg"
 dtckpuxqto kpi "go gti gf "vj cv' vj g" wug" qh' k'htqo cr'gf wecv'qap" dcugf "qp"
 rgctpkpi " d{ " f qkpi "y cu" vj g"y kppkpi " r gf ci qi kcr' utcvgi { "htq" r wr kru0
 Tgi ctf kpi " vj g" h'ewu" i tqwr "y kj " vj g" uwf gpw." cu" kpk'cr' uko wwu"y g"
 kv'qf weg'uqo g'lo ci gu."kp'qtf gt'va'j gr "vj g'r wr kru"va"r tgugpv'vj go ugr'xgu"
 cpf "vgr'j qy "vj g' "hgr'cv'vj g'gpf "qh'v'j g'r tqlgev"OVj g'lo ci gu'r tgugpv'gf "j cf "
 vj g"hwpev'qap"qh'etgcv'kpi "c"i qaf "cwo qur j gtg"cpf "va'dtgc'n'vj g'leg."kp'f'cev."
 uwf gpw'qr gpgf "wr "cpf "vqr' "wu'vj gkt"gzr gtlgpeg"tgrevf "va'vj g'r tqlgev0
 Htqo " vj gkt"y qtf u" go gti gu" c" uc'k'hev'qap" htq" vj g" ltkgpf uj kr u" dgw ggp"
 r ggtu"cpf " o wwcrl'tgur gev'y kj "uqo g"vgej gtu0 Uwf gpw'gzr tguu"vj gkt"
 uc'k'hev'qap" y kj " tgur gev' va" vj g" o cv' go cv'eu'vj gcv'tg" eqwtug" y j lej "
 cny gf "vj go "va"rgctp"pwo dgtu'vj tqwi j "dqf { "gzr tguu'qap< Krgctpgf "j qy "
 va"gzr r'kp"o cv' go cv'eu "Ucj kf ."uwf gpv= I learned how to bring out the
 emotions and to express myself with my body»*O qj co o gf ."uwf gpv= K'
 rgctpgf "va'uetgco "cpf "cr r tgekv'g'o cv' "F guk'p{ ."uwf gpv'OVj gug'r qukv'xg"
 cur geu" cnuq" uggo " va" ct'kug" htqo " vj g" vgej gt)u" cv'kwf g< Vj g" vgej gt"
 wfp gtuc'p' u" o g" cpf " j g" ku" p'leg *Cdf wn" uwf gpv= «The professor is
 engaging "O cv'gq."uwf gpv0

Cu' tgi ctf u" vj g" dcv'gpf gt" eqwtug." vj g" o quv' r tq'huu'qpcr'k' kpi " apg."
 ugxtcr'u'uwf gpw'wfp gtr'kg'vj g'un'ru'ces'v'kt'gf "cpf "vj g' "gzr tguu'vj g'f guktg"
 va" f q'vj ku'lq'd"cu'uqap"cu'vj g' "i tqy "wr "cpf "vj tqwi j "rgctpkpi "d{ "f qkpi "
 o gv' qf q'qi { ." vj g' " dgeqo g" o qtg" hco k'ict" y kj " vj g" kcr'cp" ugeqpf "
 rcpi vci g'cpf "kp'vj gkt'tgrev'qpuj kr "y kj "cf wwu< k'u'c'i qaf "lq'd"cpf "c'i qaf "
 ej cpeg" htq" vj g" h'w'wtg " *Cdf wn" uwf gpv= «I learned rules and respect

(Bilan, student)»=«I learned to express myself better in Italian "F guk{." uwf gpv=«I improved in language and expression "Cuj cpk"uwf gpv0' Hkpcmf .f vt kpi 'vj g"tqewu'i tqwr 'vj g{ "uc{ 'vj g{ 'y qwr{ 'j cxg"rkgf "gxgp"o qtg" j qwtu" qh' r tcevecr' cpf "gz vtcewttlewrct" eqwtugu" cpf "vj g{ "y qwr{ "rkg" vq" eqpvkpwg"vj g"r tqigev"pgzv{ gct0'F gur kg"vj g"f ktlewnkgu"f gtlkpi "tqo "vj g" r cpf go le."vj g"uwf gpv" kpxqrxgf "ctg"ucvuhgf "y kj "vj g"r tqigev."y kj "vj g" cevkxkku"ecttkgf "qww'cpf 'y kj "vj g"r gf ci qi lecr'utcvgi lgu'r tqr qugf "d{ 'vj g" vgej gtu."gur gekmf "vj g"o qtg"etgcvkxg"cpf "gxr tguukxg"qpgu0

Preliminary conclusions

EQXK/3; "r cpf go le"j cu"ko r qugf "c"o cetq/rxgr'tgf guki p."tgs wtkpi "c" tglgy "qhvj g"gz kumki "r tqigev."dqj "cv'pcv'qpcr'cpf "kpvgt'pcv'qpcr'rxgr'cpf "k'o cf g"xkukdrg"vj g"go gti gpeg"qh'pgy "r gf ci qi lecr'cpf "qti cplucv'qpcr' pggf u0Vj g'uwf { "f gxgr'qf "ku'r ctv'qhc"rcti gt"cpf "qpi qkpi "r tqigev."y j lej "y k'kperwf g"c"vtcpupcv'qpcr'neqo r ctuq"qh'vj g"f ko gpukapu"go gti gf "tqo "vj g"r tqigev"rgcf gt"ecug0Y g"ctg"ewttgpvr' "kpxguki cvkpi "vj g"uco g"tgugctej " svgu'kpu"y kj "vj g"htgki p"r ctv'gtu" kpxqrxgf "k"vj g"r tqigev."k"qtg gt"vq" dtqcf gp"vj g"tguwu"y kj "tgur gev"vq"vj g"qti cplucv'qpcr'cpf "r gf ci qi lecr' utcvgi lgu"ko r rgo gpv'gf "k"vj g"f k'htgtpv'GW'eqwv'kgu" kpxqrxgf 0

Vj g"htu'r tgrlo kpc{ "tguwu"cmqy "wu"vq"eqperwf g"vj cv'vj g"r gf ci qi lecr' cpf "qti cplucv'qpcr'tgqti cplucv'qpcr" k"qwt"ecug"uwf { "uggo u"vq"j cxg"dgpp" o qtg"utgco rkgf "vj cp"y j cv'go gti gu"tqo "vj g"cp'cr' ugu"eqpf wevgf "cv' uej qqr' *Dctcdcpk"Ucpvc' cvk"4242-0'k'htqto cr'gf wecv'qpcr'u"ej ctcevgtku'eu" uggo u"vq"hc'ek'cv'g's wlen'cpf "hgz kdr'g"tgur qpugu"vq"vj g"tcr k' "ej cpi gu"vj cv' ej ctcevgtk' g"vj g"r gtlqf "qh'j gcnj "go gti gpe{ 0Vj ku"cdk'k' "rgf "vq" c"hc'ugt" tguwo r v'qpcr' qh' er'cutqgo "rguu'qpu" cpf "c" i tgcvgt" gpi ci go gpv' qh' vj g" uwf gpv' kpxqrxgf "k" vj g" r tqigev" p'qpg" qh' y j qo " cdcpf qpgf " vj g" cngt'pcv'qpcr' r cvj .y j kg'vj g'tg'j cxg"dgpp"ecugu"qh'f gvej o gpv'tqo "uej qqr'0 Vj g" qpi qkpi " uwf { " r'g'cxg" cp" q'rgp" t'gh'gevk'qpcr' q'p" vj g" gh'gevu" qh' dwtgcw'et'cv'k' cv'qpcr' q'p"gf wecv'qpcr' r cvj u"cpf "q'p" vj g"cf cr' wcdk'k' "qh'XGV" u' l'uggo u."vj cv'k'qwt"ecug"uwf { "uggo u"vq"dg"dgwgt0

Vj g"cp'cr' uku"eqpf wevgf "uq"hc't"uggo "vq"eqp'hto "vj g"gh'gevk'xg'p'guu"qh'c" r gf ci qi lecr' r r tqcej "dcugf "q'p" vj g"etgcv'kxg"v'ug"qh'v'gej p'q'q' lecr'f gx'legu" *uq'ek'no gf k'c'cpf 'f kuc'peg'rg'ct'p'kpi "eqo dk'p'gf 'y kj 'vj g'v'ug"qh'lug'puqt' { 'cpf " dqf { "unt'nu"0' Hkpcmf . vj g"vgej kpi "utcvgi lgu"dcugf "q'p"rg'ct'p'kpi "d{ "f qkpi " uggo "vq" dg" gh'gevk'xg" q'p"xw'p'gt'cd'rg" uwf gpv'u) "o q'v'x'cv'qpcr' cpf "q'p" vj g'k' gpi ci go gpv'vq"vj g"gf wecv'qpcr'g'p'x'k't'q'po gpv'0

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Dctv'q'k' 0 0" Nci qo ctuk'p'q" H' *423; + " Qtk'p'vco gpv'q" ueq'rc'w'eq'< wpc" tkuqtuc"r gt" k'u'weegu"q" h'qto cv'x'q" f gi rk' uwf gpv'k' ut'c'p'k'g'tk "k" Uew'q'rc" g" h'co ki r'g'lo o ki tcv'g'<w'p' k'p'eq'p't'q" r quuk'd'rg'01 w'f c" KUO W' "Nwi r'q"423; 0C" ewt'c'f K'G'ku'cd'g'w'c' E'leek'ct'g'nk" H'q'p'f c| k'q'p'g"kuo w."O k'rc'p'q'="

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Eqmgo dq." O O" Rqrkcpf tk" F O" cpf " Tlpcrf k" G O' G O' *4242+0' l r k' lo r cw k' f gm)go gti gp|c" EQXIF/3; " uwr' ukungo c" ueqrucvkeq/hqto cvkxq" k p" Kcrlc0Uewqr" f go qetcvlec."2/20

Gwtqr gcp"Eqo o kuukqp"*423; +0Cuuguuo gpV'qh'v'j g"ko r rgo gpvcvqp"qh'v'j g" 4233"Eqwpekr' tgeqo o gpf cvkqp" qp" r qrlkqu" vq" tgf weg" gctr' " uej qqr' rgcxkpi 0' F O K B 2 0 4 9 8 8 t : 2 6 6 0' j w r u 4 1 q r G w t q r c G w l g p 1 r w d r e c v k p / f g v c k n / 1 r w d r e c v k p 1 9 4 h 2 5 2 5 g / e h g / 3 3 g ; / d 6 d h / 2 3 c c 9 7 g f 9 3 c 3 1 r c p i w c i g / g p "

KUCV"*4243+0// *benessere equo e sostenibile in Italia*

K| q."F O"cpf 'Ekwtpgnk"D0"*4242+0N)ko r cwq'f gmc'r cpf go lc"uwmc'f kf cwlec< r gteg| kpk" c| kpk'g"tg| kpk'f cr'o qpf q'f gmc"uewqr0N)grqpi "Nkgy kf g" Ngctpkpi . 38*58+ "48/650

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O gtvqp." T O" Hkung." O O" cpf " Mgpf cm" *3; 78+0Vj g" Hqewugf " kvgtxkgy < C" O cpwcr'qh'Rtqdrgo u'cpf "Rtqegf wtgu0P gy | qtrn'Htgg"Rtguu0

I kpeqr." O O" cpf " Rkqo crk" N O' *4242+0' Cr r tgpf ko gpv'k' c" f kuvp| c" c" r k " xgrqekA0N)ko r cwq'f grEQXIF/3; "uwr'ukungo c"gf wecvkxq"kcrlc0Uewqr" f go qetcvlec."2/20

Rtcci ."N O X O" P qwy gp." Y O" Xcp" Ecwf gpdgti ." T O" E r f es." P O' c p f V k o o g t o c p ." E O' 4 2 3 : 0' E q o r c t c v k x g " R g t u r g e v k x g u " q p " G c t r ' " U e j q q r ' N g c x k p i " k p " v j g " G w t q r g c p " W p k q p 0' N p f q p " c p f " P g y | q t r n ' T q w w r f i g 0'

Tco drc." Z O' 4 2 3 : 0' V j g " r q r k l e u " q h' g c t r ' " u e j q q r ' r g c x k p i < j q y " f q " v j g " G w t q r g c p " W p k q p " c p f " v j g " U r c p k u j " g f w e c v k p p c r ' c w j q t k l g u ") h t c o g) " v j g " r q r l e " " c p f " h q t o w r e v g " c ") j g q t f " q h' e j c p i g 0 " L q w t p c r ' q h' G w t q r g c p " k p v j t e v k p . " 6 2 * 3 + " : 5 ; 9 0'

Xcp" J qwwg." O O' Xcp" O cgrg." F O' *4234+0' Uwf gpw)"ugpug"qh'dgrqpi kpi "k p" vgej plecr'xqecv'qpcr'uej qqr'u'xgtuwu"cecf go ke"uej qqr'u'Vj g"o gf kvkpi " tqrq"qh'h'cewn' ('v'wuv'k"uwf gpvu0Vgcej gtu'Eqmgi g" Tgeqtf ."336*9+ "3 580

Y { p." L O' E c j k m " J O' Y q q f o c p . " F O' E w g t x q . " J O' N g e e c t f k ' E O' c p f ' E j g u v g t u . " L O' * 4 2 4 2 + 0' Y o u t h a n d t h e N e w A d u l t h o o d 0' U r t k p i g t " U k p i c r q t g

Ucxg" vj g" Ej kf tgp" *4242+0' *L'impatto del coronavirus sulla povertà educativa*

j w r u 4 1 u 5 0 u c x g v j g e j k f t g p 0 v 1 r w d r e 1 h r g u 1 w r q c f u 1 r w d d r e c | k p k l h o r c w q / f g n e q t q p c x k t w u / u w m c / r q x g t v c / g f w e c v k x c a 2 0 f h

Toward Understanding Potentials, Limits and Challenges of Cooperation between Youth Work and Schools during the Pandemic

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ABSTRACT: *A widespread warning has been issued around the globe by international organisations concerning the impact of the pandemic on young people (e.g., United Nations, OECD). Concerns have been expressed for a possible lockdown generation particularly exposed to unemployment, more uncertain life trajectories and lesser wellbeing. From a sociological perspective, the resilience of the education system to the pandemic disaster should not be viewed as a process deployed to restore past equilibria, but as the chance to activate new processes of reflective learning and innovation in order to limit potential damage and take advantage of opportunities. The paper presents preliminary research into how these challenges would be more effectively faced through enhanced cooperation between the youth work sector and the school system. The aim is to identify and discuss the main potentials, limits and issues challenging joint models of intervention based on the continuum between formal, non-formal and informal education/learning. In conclusion, the paper discusses new possible research directions on cooperation between youth work and schools in the face of the immediate and long-term impact of the pandemic.*

KEYWORDS: *learning continuum, youth work, school, COVID-19.*

Introduction

A progressive and enhanced integration of learning resources from both school and out-of-school contexts may be considered a necessary part of a resilient response by the whole educational system to the emerging needs and issues caused by the pandemic.

If we look to the possible long-term impact of the pandemic on the younger population, there are at least three major challenges that the broader educational sector *is and will be* called upon to face:

- the social, psychological and educational impact on more vulnerable youth groups;
- support for educational and job transitions in order to limit the *scarring effects* caused by the increased difficulty to enter the labour market or the early start of a precarious job career (Mousteri et al., 2018);

- the creation of spaces for youth-adult cooperation in order to counter the loss of inter-generational trust caused by the pandemic (Morciano, 2021).

In general, the impact of the COVID-19 pandemic further amplifies the elements of complexity and uncertainty that already characterised the pre-pandemic economic and social scenario, including their impact in terms of precariousness and vulnerability on young people's life paths. In this regard, research literature tends to highlight how the integration of formal, non-formal and informal learning has an impact on a number of skills that are particularly relevant to the need to proactively address (and not passively undergo) such a scenario of continuous pressure towards change. As pointed out by Wong and Looi (2011), these skills, for example, include:

- skills of knowledge synthesis, namely the ability to combine prior and new knowledge, shifting across multiple levels of thinking skills, drawing from / making connections between various disciplinary domains;
- higher levels of thinking skills: analysing, evaluating, creating, which also include critical and creative thinking, problem solving and decision making;
- social skills, for a tendency to valorise cooperative learning.

Research literature also stresses how integration is more able to generate *learning experiences as 'sense-making experiences'* (Wong, Looi, 2011), given the tendency to better address intrinsic motivation, free-choice and active participation. Thus conceived, during the pandemic, learning can be a resource that supports young people's subjective experience of sense-making in coping with threats, uncertainty, the disruption of routines and the search for new cognitive, emotional and relational resources to understand unexpected and unusual events caused by the pandemic and their possible consequences.

This article presents the results of theoretical and exploratory research into the concept of 'integration' between formal, non-formal and informal education, in terms of theoretical framework, expected outcomes, process mechanisms and contextual factors that contribute to its generation.

The first part of the article retraces the main regulations and policies for opening public schools to non-formal and informal education. In this regard, the analysis reveals the hypothesis of an educational culture that tends to consider formal and informal teaching-learning methods difficult to reconcile.

With this hypothesis in mind, the article presents some theoretical perspectives on possible forms of hybridisation between various educational contexts and methods, so as to start conceiving the school classroom and other spaces (inside and outside school) as pieces of a single teaching-learning environment involving all students. With regard to this objective, the literature analysis revealed some possible virtuous

mechanisms of progressive integration between schools and actors involved in the field of non-formal education.

On the whole, the non-formal education agencies given priority in this paper are those of educational associationism focused on work with adolescents and young people, what in Europe is known as 'youth work' and what in Italy is starting to be called 'animazione socio-educativa giovanile'. In Italy, it includes both actors who inherit various long-standing traditions (e.g. church groups, scouts, ARCI social centres, sports associations) and others which came about with the support of national youth policies (e.g. CAG, Informagiovani, Servizio Civile, Laboratori giovanili etc.) and European youth programmes (youth exchanges, European voluntary service, dialogue with institutions, etc.) (Morciano, 2021). In several cases, these actors offer structured (non-formal) learning programmes, but also create environments for more spontaneous and self-managed (i.e. informal) learning. Furthermore, youth work stands out for being a multi-site practice that engages with young people in different places and everyday situations where young people learn (Kiilakoski, 2015), such as youth centres, youth work in cooperation with other formal institutions (schools, sports organisations, libraries, youth offending services, hospitals, cultural centres etc.), detached and outreaching youth work, digital youth work, youth-led associations.

As a preface, it is only fitting to clarify the meaning of some key concepts used in this article. In particular, the distinction between formal, non-formal and informal is adopted here when referring to organisational contexts: 'formal' for school institutions (school system); 'non-formal' for other external educational organisations (offering structured programmes); 'informal' for learning that takes place in unorganised and unstructured contexts (everyday life, free time, learning from experience).

When, however, the topic of educational training methods is addressed, a distinction between 'formal' and 'informal' is adopted in this research, in keeping with a vision more open to grasping the continuum created on the basis of the degree of 'standardisation' that the methods confer to the 'teaching-learning' experience (Zürcher, 2010). While at the formal end, programmes tend to build uniform experiences for all participants (we would say 'top-down' ones with respect to, for example, the timing, structuring of programmes, target competences, evaluation methods, compulsoriness, etc.), at the informal end, we find an effort to adapt flexibly to the individual participants (and to their active participation, in keeping with a 'bottom-up' approach).

2. Prevailing logics of integration in Italian schools and unexpected disintegrating effects

The most recent legislative and policy initiatives concerning the opening of Italian schools to learning resources in non-formal and informal contexts seem to respond to four basic logics:

- *separation*, i.e. a tendency to keep the times and spaces of the formal (curricular lessons in the classroom during school hours) separate from those of the non-formal (projects in cooperation with non-formal agencies);
- *reparation/inclusion*, which concerns the use of informal educational methods to compensate for the limitations of formal education, and thus for the categories of students who are most vulnerable, less motivated or at risk of dropping out, for whom formal educational methods do not work or are not suitable;
- *enhancement of excellence*: informal methods and cooperation with non-formal education are also part of the integrative resources offered to students with above-average abilities, for whom formal education methods are insufficient;
- *embedding informal into formal*: i.e. the adoption of informal educational methods in curricular activities in the classroom, and the subsequent training of teachers.

The logic of *separation* emerges in several actions undertaken in the '90s, e.g. the use of school premises outside school hours by external parties (legislative decree 297/94, art. 96, para. 4), the inclusion of extra-curricular planning in the educational programme (art. 3 of presidential decree 275/99) and the acknowledgement of learning experiences gained outside school, in the form of training credits in upper secondary school examinations (law 425/97; later repealed by legislative decree 62/2017, now at the discretion of individual schools). The same logic will continue with the 'Scuole Aperte' ('Open Schools') programme (financial budget 2017), aimed at 'encouraging the expansion of the educational offer and full use of school environments and equipment even during non-classroom hours.' Also during the pandemic, the 2020–2021 School Programme (launched in June 2020) promotes 'community education pacts' between public and private agents to create new learning spaces (in parks, theatres, libraries, cinemas, museums, etc.) in which to carry out educational activities complementary to those of the school. Finally, Annex 8 of the January 2021 DPCM provides a set of guidelines and standards for the resumption of socio-educational activities for children and adolescents outside school.

With regard to the logic of *reparation/inclusion*, the area of social hardship was prioritised in the Scuole Aperte programme, which prioritised funding for social inclusion and anti-poverty projects, especially in schools located in at-risk and outlying areas. For the infancy and adolescence age groups, the Fondo Nazionale per il Contrasto alle Povertà Educative ('National Fund for Combating Educational Poverty')

(Law 208/2015, para. 392–395) promotes forms of collaboration between schools and non-formal agencies, focused on early educational deficiencies in children and adolescents. Finally, during the pandemic, the third sector took steps both autonomously and in collaboration with local authorities to support students struggling with distance learning: for example, we might mention the DAD Solidale ('Distance Learning Support) project promoted by the City of Naples (but at the behest of the world of associations), as well as several projects supported by the Fund to combat educational poverty (Bella Presenza, Territori Educativi and Lost in Education). Also in the international literature on cooperation between youth workers and schools, youth work tends to be more recognised in work with vulnerable or at-risk students (Sapin, 2009).

The logic of *supporting talented students* relates to the various initiatives to promote excellence (competitions, contests, tournaments, etc.), where the students' performance in a workshop activity guided by an informal educational approach plays a predominant role.

Lastly, the logic of *embedding informal into formal* refers to the push towards innovation in teaching implemented independently by the teacher in the classroom. The 'Piano nazionale di formazione' (National Training Programme) for teaching staff for the three-year period 2016–2019 adopted by ministerial decree 797/2016 devotes a specific line to the application of active methodologies (project-based learning, cooperative learning, peer teaching and peer tutoring, mentoring, learning by doing, flipped classroom, active teaching, peer observation, etc.).

Although some of these logics seem to favour the integration of formal and non-formal learning, on closer inspection, the doubt emerges that contrary effects may arise in a more or less unexpected manner. The logic of separating time and space, for example, makes the non-formal and informal separate experiences, conceived as an 'extension' of the school, not by chance often referring to the extra-curricular, as if non-formal and informal were irreconcilable with curricular activities and classroom time. The logic of 'remediation/inclusion' and that of 'enhancing excellence' are based on shareable reasons: to support those affected by hardship (with special educational needs, support activities, etc.), and to enhance the talents of the strongest students. In both cases, however, behind the corner there always lies the risk of triggering dynamics of social labelling:

- the labelling of 'problematic youths': a phenomenon which can further fuel demotivation, self-exclusion, passive conformity or further rejection etc., as referred to in the literature on youth work at school (Blackham, Smith, 2018);
- the additional effect of demotivation and devaluation that can result from excessive pressure towards success and excellence (to which 'special' initiatives dedicated to the most able students contribute), pressure countered by the devaluation and humiliation of failure, with the consequent indirect effect of demotivating the less able.

While non-formal and informal learning is predominantly conceived as an alternative (or second chance) for students who do not fit in with formal methods, or as a fair adaptation to the different abilities of more vulnerable categories of learners, or as an *additional* resource for students with above-average abilities for whom formal methods are not enough, for all other students (the majority), traditional formal education appears 'sufficient' in order to produce acceptable results, resulting in an 'inequitable' situation of exclusion of the majority of students from the extra opportunity offered by non-formal and informal resources.

Finally, the logic of *embedding* calls for an optional and autonomous decision on the part of the teacher. Innovating teaching towards more 'active' (hence informal) principles does not necessarily imply collaborating with non-formal agencies. Moreover, this again creates inequalities between students whose teachers incorporate informal methods into their teaching and students whose teachers do not.

4. Beyond the irreconcilability between formal and informal: theories on 'hybridisation'

When a school opens up to non-formal and informal learning (according to any of the logics presented in the previous paragraph), the decision-making power seems to be unbalanced in favour of the school, both when initiating specific projects of collaboration with non-formal actors and in the everyday context of the teacher's classroom work, who has a choice (and is encouraged to educate him/herself) on how and when to use non-formal/informal resources in his/her work.

The situation, therefore, seems quite far from a model of democratic co-design between schools and non-formal education agencies, working together on the basis of a framework of shared objectives and planning in which the non-formal and informal are included as a necessary and essential element of the institutionally understood 'course of study' (curriculum). This is a need that also emerges from the conclusions of the most recent European convention of the actors of youth work, i.e. 'to go beyond the idea of integrating non-formal education and learning *into* formal education settings and rather work towards a coordinated system enhancing collaboration and cooperation between distinct sectors working on a common purpose' (EYWC, 2020, 13).

The hypothesis proposed in this article is that the distance from such a vision in Italian schools is also linked to an educational culture that is still based on the idea of a fundamental incompatibility between formal and informal teaching-learning methods. For this reason, in this research we searched through the literature for theoretical approaches that, rather than focusing on the irreconcilability (which in some respects exists), are oriented towards exploring and experimenting with possible areas of synergy between formal and informal methods. Specifically, the following approaches and lines of research will be described: an area

known as the 'hybrid approach'; the 'mixer' model between informal and formal methods; and seamless learning made possible by digital media (Mobile-assisted Seamless Learning – MSL).

4.1 Hybrid approach

Research oriented towards this approach starts from a distinction, as made in this research, between organisational contexts (formal, non-formal and informal) and educational methods (various degrees of formalisation of the teaching-learning process along the formal-informal continuum) (Hoffstein, Rosenfeld, 1996).

This distinction is useful to observe how in each organisational context, as well as in the absence of an organisational basis in the case of informal learning, there can be (and co-exist) different degrees of formalisation of the teaching-learning process.

Formal and informal methods, moreover, can in some cases create synergies, even when apparently incompatible. These synergies can be created from a diachronic perspective, i.e. on the basis of temporal sequences of succession and alternation between formal and informal, but also according to a multisite principle, i.e. with more or less formal teaching-learning experiences distributed in different places yet based on an overall vision/programme.

By crossing the 'Contexts' and 'Methods' variables, we obtain at least eight different types of teaching-learning experiences, from that with the highest degree of formality (classic classroom lesson) to the one with the highest degree of informality (unintentional and unplanned learning in free time) (Fig. 1).

FIG. 1. *Hybrid approach: forms of teaching-learning experiences*

Organizational contexts	Methods (Formalization of teaching-learning process)	
	Formal	Informal
Schools	e.g. lecture in class	e.g. self-initiated project work
Non-school organisations with educational-training purposes	e.g. training course	e.g. informal creative group activity
Practice (job, volunteering, traineeship)	e.g. structured for specific expected skills	e.g. unexpected skills developed
Everyday life	e.g. free-shared structured courses	e.g., travelling, chatting with friends, internet surfing

4.2 'Formal-informal' mixer

First of all, this model assumes there is a continuum between formal and informal methods. The different variables (Fallik et al., 2013) on which the

formal-informal continuum differs can be interpreted as 'sliders' on a 'learning mixer' (Zürcher, 2010). Following the metaphor of the mixer, therefore, it is possible to modulate in intensity and combine the different variables of what may be understood metaphorically as 'audio tracks':

- duration (longer at the formal end)
- place (fixed in the formal, multiple and changeable in the informal)
- time (more flexible in the informal)
- hierarchical authority in the formal, relationships based more on mutual recognition and co-management in the informal
- decision-making powers of the teacher (or organisation) in structuring programmes (according to a top-down logic), or open programmes which also take shape over the course of the experience
- greater priority given to individual learning (in the formal) or to group learning (in the informal)
- focus on the development of basic skills (memory, comprehension), or also on advanced skills (critical analysis, problem solving, creative thinking, evaluation)
- participation driven by obligations or external expectations/pressures, or more based on intrinsic motivations
- assessment based on numerical or descriptive judgements, replaced by mutual feedback and a practical demonstration of situational skills
- more focus on the contents of learning or on the 'person' learning (as a whole)
- knowledge that is predominantly theoretical and academic, or more practice and real-world oriented
- more attention to the needs of the class (with uniform programmes for all) or more sensitivity to individual participants
- more emphasis on the relationship between teacher and class, or on one-to-one educational relationships

For example, while some basic skills require structured paths to be followed, based on the specific discipline in question (e.g. technical drawing) with a more directive role for the teacher, more advanced skills (critical analysis, evaluation) require a more flexible, dialogic and participatory path in which the teacher plays a facilitating role.

Certain combinations may lead to incongruences (or 'distortions', should we continue with the mixer metaphor). For example, intrinsically motivated experiences may be less 'in tune' with a lesser connection to everyday life, the top-down approach and the adoption of marks as motivational drivers.

Be as it may, some apparently incomprehensible features may work better when combined. For example, experiences which are more intrinsically motivated require a certain degree of formalisation (duration, objectives, available tools, basic rules on how to use them, an educational figure prepared to act as guide and facilitator etc.), especially when carried out in groups, although an important difference with respect to

more formal programmes lies in the fact that the process of formalisation is managed autonomously by the participants and, in the case of the presence of adults with educational functions, on the basis of a non-hierarchical and tendentially equal-footed cooperation.

The metaphor of the mixer also guides us to explore how different combinations may be more appropriate for the specific characteristics or situations of individuals or groups. For example, for some learners, more formal educational approaches may have become part of their comfort zone over time, with a consequent difficulty in benefitting from a sudden change towards more informal approaches; thus it would be more appropriate to make such a shift gradually.

4.3 Mobile-assisted Seamless Learning (MSL)

The growing popularity of mobile devices for accessing resources in the digital space (smartphones, tablets, etc.) has further enhanced the possibilities of the continuous shifting of the learning experience between various formal, non-formal and informal contexts. The specific potential of digital media are the focus of a research area examining the concept of 'Mobile-assisted Seamless Learning' (MSL). This is a learning experience – and a potential model for educational practices – that aims to enable students to learn about 'whenever they are curious in a variety of scenarios' by being able to move 'from one scenario to another easily and quickly using the personal device as a mediator' (Chan, 2006, 6), thus driven primarily by their own curiosity and interests. Mobile devices, therefore, function as a 'learning hub' that operates as an 'interface between learners and their (multiple) learning environments' (Wong, Looi, 2011, 2364) both in and out of school. Different learning scenarios may include:

'learning individually, with another student, a small group, or a large online community, with possible involvement of teachers, mentors, parents, librarians, workplace professionals, and members of other supportive communities, face-to-face or at a distance in places such as classroom, campus, home, workplace, zoo, park, and outdoors' (Chan, 2006, 6).

5. Forms and mechanisms of democratic cooperation between schools and non-formal agencies

A key research question that emerges, therefore, is how to build 'democratic' forms of cooperation between schools and non-formal educational agencies, i.e. based on a greater sharing of decision-making power, and which go beyond the previously seen logic of separation, remediation, enhancement and embedding.

A specific theory on the most effective forms of cooperation with regard to this aim is the one developed by Noam and Tillinger (2004) called the intersectionality theory. This perspective adds another

characteristic to the new environments that can be potentially deployed through the hybridisation of formal and informal, namely that of 'transitionality', which looks at the overall educational impact on young people's development paths.

The authors define 'transitional learning environments' as those that help young people to bridge the many worlds they traverse (family, education, work, friends, hobbies, leisure time, volunteering, activism, online-offline etc.) (Noam, Tillinger, 2004). Therefore, they are 'spaces between spaces', designed to be challenging and age-appropriate, offering a variety of ways to experience and demonstrate knowledge and skills (experimenting, developing the own identity, solving crises, making choices etc.)

Drawing on youth work research literature, they may be conceived as third spaces, ones of 'mediation' and accommodation between the subjectivity of the young and adults'/institutions' pressures and expectations. At a sociological level, this kind of space should be able to nurture youth agency, namely the ability to deal with socio-structural constraints, to develop creative ways to fulfil their own potential by exploiting opportunities and coping with the limitations of their own lives and of social contexts. They are based on supportive relationships between adults and learners, therefore on co-learning, co-planning and the equal sharing of decisional power (Morciano, 2015).

The intersectionality theory assumes that the creation of transitional learning environments calls for a specific type of cooperation between school and out-of-school organisations known as 'transformational partnerships'. On the basis of comparison between various case studies, the authors have identified four types of partnership:

- *Functional*: with minimal joint planning, the separation of tasks run independently by each partner, focus on the efficient performance of each partner (which may be hindered by too much cooperation), hierarchical relationships (led by the school) and often created quickly in order to apply for funding.
- *Collaborative*: with more space for joint goal setting and mutual learning, like the 'functional' partnership, it is based on a formal operating systems (procedures, disciplinary codes, e.g. for conflict resolution) and focused on 'making things work'.
- *Interconnected*: more priority is given to synergies between partners, led using a collaborative process with joint decision-making which also includes young people, parents and the local community. Each partner has largely distinct tasks, and the partnership has low sustainability over time.
- *Transformational*: partners activate durable and sustainable cooperation to develop new and innovative 'teaching-learning' environments. The implementation of the project follows a learning process which transforms values and perspectives of partners while working together. Working in a partnership is felt more as a 'way of life' than as a strategy. Partners cooperate to construct new forms

of organisation to implement an innovative/new programme. The focus of joint work is on the process (reflexivity, emergent dynamics, unexpected outcomes) rather than on planned activities to achieve specific expected outcomes.

This theory may also be useful in observing possible evolutionary paths of a partnership from a strictly functional logic through to logics that are gradually more collaborative and, ultimately, oriented towards creating innovative learning environments, also following a process of learning and change (of values, norms, structures etc.) in each partner.

In this direction, the review by Fallik et al. (2013) identifies some key mechanisms in the process:

- mutual recognition of the importance of bridging formal and non-formal learning, e.g. through evidence of the positive impact of informal education, discussion meetings on potentials and limits of formal and informal education;
- mutual acquaintance with the two curricula, e.g. looking for similar subjects in order to combine different perspectives (e.g. theoretical and practical, different skills) on a common subject, identifying new needs not yet considered in both curricula, engaging with the other partner's programmes and learning context etc.;
- preparation of students to cope with the 'novelty space': preparing students to come to terms with new and unfamiliar concepts, to get acquainted with new places (of learning) and with new tools;
- ongoing dialogue between both staff groups, considered a driver that can sustain a working partnership over time, e.g. with the continuous exchange of information about students.

Conclusions

In conclusion, this exploratory work highlights some relevant issues on which to build new paths of evaluative research.

One initial line of research could focus on case studies of possible embedding processes carried out by transformational partnerships between schools and other non-formal educational agents, in particular aimed at building new learning environments which go beyond the logic of separation (between formal and informal times and spaces), and those which so far have conceived embedding as something 'exceptional' (e.g. limited to the most difficult students or the most talented ones) or at the teacher's discretion (when he or she innovates teaching methods by incorporating the principles of informal education in the classroom).

Such potential virtuous experiences could be assessed with a positive thinking approach (Stame, 2016), and thus with a contextualised analysis aimed at identifying the specific configuration of events (programme theory, intermediate mechanisms, contextual factors) that make a transformative partnership possible and the construction of new hybrid,

multisite, networked, diachronic, joint, universalistic, transitional/developmental teaching-learning environments.

Specific focus, for example, could be placed on exploring and mapping the micro-practices of hybridisation between formal, non-formal and informal learning developed across different territories: practices that, where they exist, would help to de-construct a basic prejudice on the irreconcilability between formal and informal methods.

Specific attention might also be given to the experiences that emerged during the pandemic. For example, could the suspension of in-person teaching activities itself have pushed some schools to turn towards new projects in this direction? Where this has happened, what impact has it had on the relevant skills needed to cope with the uncertainty and complexity of the economic and employment scenario, further amplified by the pandemic?

Were the effects of learning loss during the pandemic more limited in those schools that were more open to collaboration with non-formal actors and with learning resources outside the digital classroom (e.g. online resources, use of digital access devices according to the Mobile-assisted Seamless Learning model)?

Other lines of research could focus on the issue of inequality. For instance, does the propensity towards integration between formal, non-formal and informal change according to a different 'endowment' of learning resources and out-of-school educational agencies in the local territory? How much and in what way, then, have territorial inequalities in out-of-school learning resources affected integration processes? Is it also possible that schools more inclined towards integration have stimulated processes of enrichment of non-formal learning resources in these territories?

Finally, the literature examined in this exploratory research could be the basis for constructing a structured survey – e.g. one aimed at lower and upper secondary schools most affected by the suspension of face-to-face teaching activities – to investigate how head teachers and teachers continue to conceive the integration perspective, be it still according to the usual logic (separation, remediation, autonomous embedding, etc.), or approaching the idea of a non-formal and informal resource no longer mainly considered an exception or an option, but a founding and essential element of a new way of learning, in keeping with a model that sees the school as a 'learning hub', capable of operating as an interface between students and the plurality of learning environments inside and outside school premises, doing so in a climate of mutual acknowledgment and sharing of decision-making power, together with external agents engaged in non-formal socio-educational activities.

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Formal, Non-formal and Informal Education: Integration is Possible

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ABSTRACT: *Educational neuroscience shows that informal learning is led by the biological laws of learning processes: it's the most natural and efficient way to provide quality knowledge and to improve cognitive and social skills, soft skills and executive functions. It also increases motivation, creativity and happiness and promotes life-long learning in the young person as well as in his/her living and social environment.*

Infants and very young children naturally learn this way.

If children are free to learn independently, if they are active protagonists of their learning process, formal or non-formal learning usually starts spontaneously from curiosity and creativity, which have been activated by an informal and experiential approach.

Informal education is typical for Homeschooling and Unschooling because they allow more flexibility than school in time and space management, in choosing and using materials and contents; the learner in these cases is more active, involved and motivated; the catalyst of informal learning processes is the living environment paired with the co-learning of children and parents.

On the other side, formal education typically takes place at school, because the learning times, spaces and contents are more restricted and formally structured, as they are separated from the complexity of the real world and outside of the learner's decision spectrum. Formal learning is teacher-centred and oriented on labor market.

The pandemic has shown that through distance learning it's possible to widen learning spaces, but this isn't enough for a real integration between formal and informal education.

In North-America (U.S.A. and Canada) and in the United Kingdom, where governments recognize and support Homeschooling and Unschooling, the cooperation and integration between school and unschooling approaches is a usual practice: homeschoolers attend school part-time or on demand, they participate to school trips and workshops. This leads to a synergy among students, parents and teachers or educators.

In Italy, informal educational practices are mostly considered as an alternative to school and take place outside of it: education is either formal or non-formal. As a homeschooling mother and public school teacher I experienced the limits of this opposition.

The increasing homeschooler and unschooler movement could help to balance the traditional predominance of formal education and its actors.

From the integration among all these options depends the future of education and youth. This may be the solution of the educational crisis that pandemic has amplified.

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KEYWORDS: *Informal learning, unschooling, formal education, integration, homeschooling.*

Introduction

The purpose of this presentation is to analyse the three main educational approaches focusing «school age», in order to understand if and how integration already happens and how it may be possible in an institutional context.

Our interest in «school age» comes from a substantial lack of studies about informal education in this period.

The following topics will be approached:

- the main features of formal, non-formal and informal education
- what happens at «school age» in and outside mainstream education
- why integration is necessary
- how integration may be possible

1. The main features of formal, non-formal and informal education

TAB. 1. *Main features of formal, non-formal and informal educational*

<i>Formal education</i>	<i>Non-formal education</i>	<i>Informal education</i>
...takes place in institutions (schools, colleges, universities)	.. takes place in conferences, seminars, non-credit adult educational courses,is strictly linked to the learner's living environment; it is situated;
...needs licensed teachers, or tutors, or trainers;	...doesn't need a licensed teacher, tutor or trainer	...is an autonomous learning process
...is adult centred and pre-oriented to labour market	...is not adult centred but may be pre-oriented to labour market	...is learner centred and focused on the person's development
...needs a structure (learning plan, timetable...)	...may be less structured	...is creative
...is deliberate, explicit	...is not always deliberate or explicit	...is incidental, implicit
...takes place through exercises, tests	...may need exercises and tests	...happens when nothing seems to happen

1.1. Formal education

Most people know formal education because of schooling.

Indeed it is the typical approach of school and university: it needs licensed teachers, a structured learning place, timetable, specific learning tools, a sequenced learning plan (from the easiest to the more difficult level); it also requires practice, exercises, tests.

It is deliberate (you need a commitment), adult-centred and pre-oriented to labour market.

1.2. Non-formal education

Non-formal education is well known, too: it is the way you learn when you go to a conference or to a course for something; it is usually more flexible than formal education but the learner is not autonomous in the learning process.

1.3. Informal education

Informal education is the way infants and young children naturally learn e.g. their mother tongue(s): they don't learn it by studying the alphabet or grammar rules, but only through exposition.

When we learnt our mother tongue we were never taught. We were exposed to it and we were freely given the opportunity to explore the language.

At about age two in English (mother tongue) I didn't know any English theory, what a noun or a pronoun was, I didn't know any skills such as the alphabet, but I could speak freely.

When I was a baby, before I could even say a word, I was allowed to speak with mother tongue speakers ... I was never told I was a beginner. (Victor Wooten, Groove Workshop, <https://youtu.be/X0bIVDkKlpw?t=99>)

The learning process: strictly linked to the learner's living environment

Informal learning happens through everyday activities in the learner's living environment.

The environment is made of places, their inhabitants (people, animals, plants), things and events happening in them. So you learn e.g. by meeting people, cooking, taking care of animals and plants, taking part in things happening around you, going out.

Everyday activities are e.g. play, social conversation and interaction, music, household tasks, DIY, observation, shopping, exploration, drawing, reading.

Learning through this kind of activities is not the same as studying what you are taught. Instead, it is rather doing different things with different people at different places.

The learning process is usually social, autonomous, pervasive, creative and democratic.

Situated and social

It is social and situated because it is linked to the living environment.

It needs social and cognitive complexity, a variety of learning opportunities, interaction with groups/people of different ages and with different social and cultural backgrounds.

Autonomous and learner-centred

It is an autonomous and personal way to learn.

The idea that children only learn because they are taught is not true. Children (and not only children) learn because they are curious, because they need to understand the sense of the world around them, of people in it and of things happening.

Learning is a vital instinct, a deep human need.

You can learn without teachers, or trainers, or educators and also without an abstractly sequenced learning plan, or a timetable, or structured learning tools.

You just need to follow the inputs coming from your living environment: «her daughter learnt the 20x table before the 2x table, because she was an enthusiastic collector of 20c pieces from trolleys abandoned in supermarket car parks, especially when it was raining» (Thomas, 2002).

So everybody follows a different path, depending on a sort of chemical reaction between the living context and the personal interests and talents. Children do not always learn the easiest things first, like they are expected to do at school. They are instead rather fascinated by complex situations and difficult issues, so they sometimes learn more complicated things before the easiest ones.

Creative

It is the most natural way for children to understand the sense of the world and the people around them.

When they learn in an informal way, children do the same as scientists creating scientific knowledge:

Children are born passionately eager to make as much sense as they can of things around them. The process by which children turn experience into knowledge is exactly the same, point for point, as the process by which those whom we call scientists make scientific knowledge. Children observe, they wonder, they speculate, and they ask themselves questions. They think up possible answers, they make theories, they hypothesize, and then they test theories by asking questions or by further observations or experiments or reading. Then they modify the theories as needed, or reject them, and the process continues. This is what in «grown-up» *life is called the – capital S, capital M – Scientific Method* (Holt, 1989)

For that reason, this learning process is natural: because it follows the biological learning laws. It is the way infants learn a basic social interaction, sense of humour, for example.

Pre-school children learn their mother tongue(s) this way, just by being exposed to it, by being given the opportunity to use it/them freely, by interacting with native speakers, who are the same as professional users. Children's «mistakes» are not seen as failures but as attempts and experiences preparing solid language skills. They are normally not taught, or tested, monitored, punished for their «mistakes». They are given the independence to try and to fail, to hypothesize how the language system works, to modify their guess or to reject it.

Incidental, implicit

The learner is not always aware of actually learning something: informal learning is not always deliberate, or predetermined, also because it often is experiential.

Infants and children are rarely aware that the learning process is happening; e.g., while learning social skills, they just interact, smile, laugh, speak, because they need to, because they live in a context where everybody does.

It is a personal, even intimate process.

This special feature makes informal learning a bit elusive: it is difficult to be tested or monitored.

Some unschooling parents wonder how their children could learn so much without an evident learning process.

Pervasive: it happens when nothing seems to happen

The learning process is also pervasive: it happens anywhere, at any time, in any context. There is no separation between learning time and not-learning time, between learning space and living space, between learning tools and everyday tools.

A quote by Alan Thomas: «I was prompted to study home education by an interest in individualized teaching» (1992). My introduction to informal learning came when I was invited to spend a week «living in» *with a home educating family*.

What impressed me most during that week was that nothing much seemed to happen, on the surface at least, especially when compared with the sense of purposeful industry you get when you look into a typical classroom. There was no timetable or designed programme of sequential learning activities within a planned curriculum. We went for walks. The two children, aged eleven and thirteen, certainly read a lot and spent some time working on their own projects. There were various outside activities, including band practice. One of them was doing a project on infant development and was helping a neighbour with her newborn baby. There were friends around after school and there was a schools' musical Eisteddfod which one of them took part in [...] These children certainly were learning, though obviously not through the kind

of organized individualized teaching I had expected to see. What struck me most of all during the week was the constant opportunity for informal learning, especially through social, often incidental conversation. Whether they were out walking, sitting around the kitchen table, engaged in some other activity such as drawing, making something, working on a project, eating, out in the car, or even reading, there was an incredible amount of spontaneous incidental talk. One day, for example, we were all sitting around the kitchen table engaged in our separate activities. Topics of conversation, as often as not unrelated to what we were doing, kept cropping up. Among other things, we discussed slavery, Nelson Mandela, saltwater crocodiles and levels of groundwater... and whether to go down the shop for some doughnuts. The children probably saw this as no more than social chat. But I wondered how far this kind of incidental learning might contribute to their overall education. With or without it, they were certainly making progress. Both (went) on to study part time at adult and further education classes and successfully take public examinations.» (Thomas, 1998, 4).

2. What happens at «school age» in and outside mainstream education

At a certain age, children officially begin their education.

According to the Italian constitution (art. 34) education is mandatory for at least 8 years; now it has been extended to 10 years.

In those years parents must provide education for their children. So we can say that «school age» is for many Italian children officially from 6 to 16, although there are a lot already attending kindergarten at the age of three, or even before, and many go on studying even after 16.

Parents can provide education inside mainstream, which means putting children at school, or they can homeschool them.

2.1. Inside mainstream education

If children are sent to school, the inborn informal learning process is broken and replaced by a formal or at least non-formal one. As already shown above, in schooling informal learning is only incidental and almost rare.

So children are supposed to learn by answering teachers' questions instead of asking questions themselves; instead of learning by exploring, they are expected to learn what they are taught, which is mostly what other people have already discovered.

This way children lose the capacity to learn informally: the natural process is interrupted and forgotten. Children's self-esteem, motivation, autonomy and even their capacity to learn sink.

2.2. Outside mainstream education: some examples of spontaneous integration in boundary practices

More and more families chose to homeschool/unschool their children and so they provide education outside school.

2.2.1. Unschooling

There are families who decide to let their children free to learn autonomously, in a rather informal way. In this case the inborn learning process continues in a natural way: children carry on learning by asking questions, forming theories, hypothesizing, exploring, observing and just hanging around people who do things. They learn e.g. through social conversation, everyday activities, DIY, hands-on activities, outdoor experiences, free play.

Parents begin to recognize the huge amount of learning opportunities in everyday life and activities; they understand the quality of this knowledge, which has been acquired in social and cognitive complexity; they enhance the abilities and skills (soft skills, life skills, social skills, executive functions) children improve this way.

With time this learning process spontaneously integrates with personal study and deliberate self-guided research, which becomes a need for the child.

Young people become aware of their learning process and often want to improve it.

A lot of unschoolers enrol later in college or university and generally score above the average of their schooled peers in academic tests.

2.2.2. Homeschooling

Some families don't put their children at school, but instead try to do «school at home» or to enrol in a parent-led school. They choose a more formal educational path.

But what is formal at home or in a parent-led school is really informal in public school.

As a matter of fact, the formality level is very different:

- with a 1:1 rate (more or less), teaching/learning is very intensive and so you don't need as many hours as you do at school;
- a personalized timetable can be very, very flexible if needed: if the child is sick you can easily postpone a scheduled lesson and you do not lose it;
- the learning space can be widened thanks to the integration with outdoor activities and other kinds of experiences (a visit to the library, to an exhibition or a museum, to the cinema or to the theatre, shopping, meeting people for example);
- the learning group can also be integrated thanks to the participation of other people to the learning activities;
- the learning tools can become richer and more varied, creative, or self-made.

This way integration among formal, non-formal and informal education begins to be more or less aware.

With time, things may change: children get tired and bored of being taught; as they have more free time, they use it to improve their informal way to learn; they get more and more curious about a specific topic and prefer to deepen their knowledge instead of going to class.

Parents observe their children and discover their progress; they understand the power of informal learning.

Children and parents begin to get more and more confident with informal learning and they approach it further. They spontaneously integrate a more or less formal approach for some aspects or for two or three subjects with a general non-formal approach for all the others.

Later on, when children are 15 or older, many homeschoolers want to attend a secondary school or a college/university: they move on to a mostly formal approach.

3. Integration is necessary

Mainstream education also needs integration among formal, non-formal and informal education, not only because of the previously mentioned benefits, but also for non-pedagogical reasons.

3.1. Formal education has shown its limits

School is no longer able to really improve cognitive skills, social skills, life skills, soft skills, and executive functions.

«Learning to learn», self esteem and motivation are usually not well improved at school.

Also in some basic knowledge and abilities, such as reading/writing or counting, school fails to accomplish its goals, even the main ones.

In 2018 the PISA (Program for International Assessment) results¹ have shown that Italian 15-year-old schooled children scored worse (476 points) than the average in other countries (487 points) and that these results were getting worse: -11 points compared to 2000, -10 points compared to 2009 and 13 points less than in 2012.

In 2019 the INVALSI tests² showed following results by pupils at their 13th school years (19 years old):

- Italian: 30-55% of schooled children scored under the average in 12 out of 21 Italian regions

¹ Summary of the Italian OECD PISA 2018 results, <https://www.invalsiopen.it/wp-content/uploads/2019/12/Sintesi-dei-risultati-italiani-OCSE-PISA-2018.pdf>, accessed 14/06/2021

² INVALSI Test Report 2019, https://invalsi-areaprove.cineca.it/docs/2019/Rapporto_prove_INVALSI_2019.pdf, accessed 14/06/2021

- Maths: 30-63% of schooled children scored under the average in 16 out of 21 Italian regions
- English (listening): 20-45% of schooled children did not reach the level B1 in 13 out of 21 Italian regions

The conventional division of knowledge in abstract subjects is obsolete: the Italian law recognizes it in the *Indicazioni nazionali 2012*³. We need a more complex approach to knowledge, in order to deal with great contemporary and future challenges.

The necessity of a more informal approach at school is shown by its tentativeness to integrate the «forme scolaire» with other kinds of activities, such as the «reality homework» (*compiti di realtà*), which should be concrete activities in the world and society outside school.

But as this homework is part of a structured and sequenced learning plan, organized by a teacher, as it is deliberate and explicit, as it is usually monitored, a question surges: can it really be considered informal?

Modern life and technology offer plenty of learning opportunities, such as the free access to libraries or to online resources and cultural events, like tutorials and MOOCs (massive open online course), virtual visits of museums, galleries or exhibitions, conferences and seminars. Compared to this wide offer, school seems to be a closed up space where nothing happens, except for a theoretical and abstract transmission of knowledge.

We must move away of a view of education as a rite of passage involving the acquisition of enough knowledge and qualification to acquire at adult station of life. The point of education should not be to inculcate a body of knowledge, but to develop capabilities: the basic ones of literacy and numeracy as well as the capability to act responsibly towards others, to take initiative and to work creatively and collaboratively.

The most important capability, and the one which traditional education is worst at creating, is the ability and yearning to carry on learning. Too much schooling kills off a desire to learn...

Schools and universities should become more like hubs of learning, within the community, capable to extend into the community...

More learning needs to be done at home, in offices and kitchens, in the contexts where knowledge is deployed to solve problems and add value to people's lives. (Leadbeater, 2000, 111-112)

3.2. *Pandemic has augmented the need of integration*

School has a big limit: it needs to put a lot of people together, at the same time in the same space, doing more or less the same things.

Pandemic has shown that this could be a problem: since the beginning of 2020 school had to enlarge the learning space and time. Thanks to

³ *Indicazioni nazionali per il curricolo*, <http://www.indicazioninazionali.it/wp-content/uploads/2018/08/decreto-ministeriale-254-del-16-novembre-2012-indicazioni-nazionali-curricolo-scuola-infanzia-e-primo-ciclo.pdf>

distance learning school extended its span and virtually arrived into children's and teachers' homes. In other cases children had shifts, so some of them were free in the earliest morning hours, which is quite unusual in western schooling tradition at «school age». A lot of different solutions have been found and they were all in order to respond to the need of wider spaces and more flexible learning times.

At the same time, distance learning offered new learning tools, that is the opportunity for a more modern and varied approach: children could study, research and find sources in a more autonomous way than usual and they could work in pairs or in small groups, improving their cooperative skills. Distance learning also put children and teachers in the necessity to use social networks in order to stay in touch with each other; that means communication has become more informal and fluid. Instead relationships and social life became more distant during these months.

This shows how necessary it is for school to become more open and to modify some of its parameters: it should provide more flexible learning times, more modern approaches, learning strategies and learning tools.

Indeed pandemic led to a real revolution, a big crisis, for school all over the world.

But not for homeschooling or unschooling families: they have continued along their path, with some restrictions maybe, but without so many changes. On the contrary, homeschooling/unschooling was already way ahead in a flexible management of time, space, tools, groups, activities.

3.3. Informal education can better improve some skills and some personal traits than formal education

It is not a secret that a lot of skills can be better improved outside schooling than inside of it.

The informal learning process itself works in a way that necessarily improves some skills and traits, such as learning to learn, self-esteem, happiness, life skills, resilience, empathy, motivation, executive functions, entrepreneurial skills.

Informal learning naturally takes place in social and cognitive complexity: it needs various kinds of relationships and improves them at the same time.

As it happens through free play, conversation, interaction and collaboration with different people, it requires the capacity to negotiate and to make decisions, it needs resilience and self-confidence.

Thanks to its characteristics, the informal learning process naturally improves creativity, as well as autonomy.

4. Integration is possible

Integration among formal, non-formal and informal education already happens in boundary practices such as homeschooling and unschooling, as shown above.

At an institutional level it is also already happening in some countries around the world.

Some Governments recognize homeschooling and unschooling as valuable educational paths: they do not only support homeschooling families, they also encourage a sort of collaboration between them and schools, part time or on demand.

In these cases integration usually works and leads to a synergy: homeschoolers have access to school libraries or to some school activities, for example, schooled children get in touch with more informal ways to learn.

In countries where governments barely tolerate homeschooling, an integration process is necessary in order to recognize and enhance the informal approach, as well as the already existing experience outside mainstream: openness and collaboration are required.

Conclusion

Although integration is a spontaneous process of some educational paths outside mainstream, in an institutional context it is urgent, but it needs commitment.

The first step for integration is recognising the «other» and enhancing it. This is more important than accepting a predefined model. «Informal learning should no longer be regarded as an inferior form of learning whose main purpose is to act as the precursor of formal learning; it needs to be seen as fundamental, necessary and valuable in its own right» (Coffield, 2000, 8).

The features of informal learning make it very flexible in learning times, spaces, tools, groups, activities and approaches management. So integration needs large flexibility.

Flexibility means in this case:

- less schooling, less time in school and more free time, which is time for informal, implicit learning, when nothing seems to happen but the learner discovers the world and people in it;
- open learning spaces including the living environment, the places where people do things;
- new and creative learning tools; not only books or online resources, but also other objects and sources which give access to the «raw materials» for learning (e.g. nature and its inhabitants, town, people and social groups, museums)

- open learning/living groups, including different ages, social or cultural backgrounds, professionals and in general people who make things happen and use knowledge to provide well-being
- less impact of a standardized learning plan
- secondary role of teachers, trainers, educators: they should act as facilitators of the learning process
- flexible approaches, beyond the traditional subjects and even beyond inter-disciplinary approaches; we need some sort of holistic learning
- a larger number of educating communities, providing learning opportunities for everyone.

In this optic, school should be seen as a learning hub, providing learning opportunities for the community; teachers should become professionally trained on where and how to find learning sources.

Of course, some changes are needed:

- new professionalisms should be provided in the teaching system and in the community, too
- a new view and attitude in and outside school
- a new sensibility and awareness about the value of informal learning and the situations in which it is practiced.

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**Beyond Formal Education?
Young People and Alternative Non-Formal
and Informal Learning Times and Places**

Informal Learning in the Local Community. The Tessera Cultura Project

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ABSTRACT: *The urban space provides numerous opportunities for project-based learning, by fostering civic awareness and encouraging participation through nonformal and informal learning opportunities. The local community becomes a space of deep learning as a result of cultural affinities, the transmission of implicit and explicit values, and the generation of meanings and symbols that emerge and spread over time (Ellerani, 2013). In this sense, the goal of our work is not only to demonstrate competencies acquired through non-formal and informal learning processes, but also to describe the contexts and generative challenges of those processes so that we can better understand how learning occurs. Such generative contests have the potential to influence the construction and redefinition of the social community while also improving professional autonomy, motivation, and re-activation, as well as civic rights protection. On these premises, our work presents the case study of the Tessere Cultura project (<https://www.tesserecultura.it/>), which was realized in the city of Ragusa (Sicily, Italy) with the support of the local municipality and local associations. Our goal was to highlight Ragusa's public assets as well as the efforts of local youth organizations in order to provide young people aged 17 to 35 with new opportunities for civic engagement and cultural expression. Through an auto-ethnographic analysis (Ellis, Bochner, 2000; Roth, 2005) conducted over a year (November, 2019 – November 2020), we identified numerous positionings in the study's context, including those of a researcher, participant-observer, designer, and activist, all while working in a continuous field of research and total immersion. What processes of activation and transformation have occurred in young people? How has urban space evolved as a formative space? The Tessere Cultura project had a formative and transformative impact on the participants and the local community. Knowledge of material and immaterial cultural heritage has become a means of bringing young people closer to their city through the implementation of workshops, formative activities, and interviews. The young participants encountered marginal urban spaces and developed a relationship with the commons good that goes beyond mere enjoyment (Ruggiero, Graziano, 2018). This project was able to elicit collaborative and cooperative processes of participation from the local residents, as well as to activate practices of continuous care for the city. In light of the recent debate on civic education and the promotion of inclusive processes in the pursuit of active citizenship, this project is significant for ethical and political implications.*

KEYWORDS: *Informal Learning, Urban Pedagogy, Civic Education*

Introduction

Places of learning, in relation to the subject who learns, can be contexts with a strong emotional and cultural belonging, in which to live with confidence significant moments of one's own learning and the construction of one's own identity, which is now increasingly multiple (Sen, 2007). It is thus necessary to consider the pedagogical theme of opportunities, defined as a person's capacitating set of alternatives (real opportunities) (Sen, 2010), where the paradigm of human development is the main alternative to the growth-centered model (Nussbaum, 2011). What matters most are the opportunities that each person has in key environments ranging from life to political freedom to participation, where these key environments (understood as lifewide learning) also take on the perspective of life-long learning as they extend along an existential *continuum*.

In this context, public spaces offer settings for youthful behaviour patterns in peer groups, scenes and cliques. These also serve as a stage for the informal educational processes which take place there. The urban space provides numerous opportunities for project-based learning, by fostering civic awareness and encouraging participation through nonformal and informal learning opportunities. Because of cultural affinities, the transmission of implicit and explicit values, and the generation of meanings and symbols that emerge and spread over time, the local community becomes a space of deep learning (Ellerani, 2013; 2018).

Before presenting our case study we would like to present some key concepts which can orient our work in a more theoretical way.

- *Connecting cultural heritage with informal education*. Cultural Heritage has been defined as «all the beliefs, values, practices, and objects that give a place its own specific character» (Zialcita, 2007, 1). Cultural heritage can provide context-specific content and pedagogy for education programmes and bring schools closer to communities; thus, acting as a leverage to improve the relevance of education and learning outcomes.

The study has been shaped by the definition of ICH contained within the UNESCO Convention for the Safeguarding of ICH. The 'intangible cultural heritage' means the practices, representations, expressions, knowledge, skills – as well as the instruments, objects, artifacts and cultural spaces associated therewith – that communities, groups and, in some cases, individuals recognize as part of their cultural heritage. This intangible cultural heritage, transmitted from generation to generation, is constantly recreated by communities and groups in response to their environment, their interaction with nature and their history, and provides them with a sense of identity and continuity, thus promoting respect for cultural diversity and human creativity.

- *Territory*. The territory is a field of belonging (of knowledge, responsibility, and co-responsibility) and a site of lifelong learning (the relationship between person and environment). This claim has enabled us to create a space for work and reflection on potential learning practices and development processes that are consistent with the training and educational requirements for the definition and cultivation of the common good.
- *The city as a natural environment*. In the pedagogical field, the studies of Bronfenbrenner's (1978) outline the environmental and ecological model, taking into account all the environmental structures in which the subject is born, evolves, and experiences. Also, the environment is considered as an ecological habitat (Bateson, 1984) in which the training action correlates with the context in an adaptive manner, generating knowledge construction processes in the *deutero-learning* dimension.
- *The city as community* in which to train and educate the subject, particularly the younger generations (Wenger, 2006). They share informal practice and learn participation in the city, which is important for cultivating a social identity.
- *City as a training laboratory* (Dewey, 1939) in which learning occurs in a social context through relational and cooperative exchanges (learning by doing).

Another important aspect of urban pedagogy is the use of urban space as a learning environment, including areas that are not normally visited.

1. Case of Study- The *Tessere Cultura* Project

The *Tessere Cultura* Project was realized in the city of Ragusa (Sicily, Italy) in a context of urban marginality and civic disengagement with the support of the local municipality and local associations.

The project proposed a collaboration model that involves public authorities that own the cultural heritage of the city, the *Liberio Consorzio Comunale di Ragusa* and two youth associations: *L'Argent A.P. S* and *A.St.R.A.Co*.

L'Argent is a Social Promotion Association, which has been operating since 2007 in Ragusa in the field of giving value to tangible and intangible heritage and reusing of underutilized public goods. It is also involved in the designing of formative courses for young people in the territory. *Astraco* promotes research and dissemination about the history and representation of architecture in Sicily.

The activities have begun on 21 October 2019 and ended on 21 December 2020 and the project have been funded by the Sicilian Region and the Presidency of the Council of Ministers – Department of Youth and the National Civil Service from the fund National Fund for Youth Policies Year 2014-2015-2016, Line of intervention 2 «Actions for the enhancement of public places / goods for aggregation of young people».

The Tessere Cultura project involved about 50 young people from Ragusa, aged between 17 and 35 years. About 20 of those followed the entire training course and participated in the co-creation of the final event. Furthermore, numerous young people, not enrolled in the project, participated in the final event. This participation was significant especially in relation to the restrictions and rescheduling due to the COVID-19 -19 pandemic crisis.

Activities

Tessere Cultura wanted to create the conditions useful to encourage the enhancement of cultural heritage by young people and to offer spaces and opportunities for aggregation and creative production within public spaces of high cultural value.

The project activities were developed on three levels and in three different time phases:

Cultural Heritage Education: the first 8 months of the project were dedicated to formative activities about our tangible and intangible cultural heritage and opportunities for aggregation through itinerant urban workshops, interviews to the stakeholders and participatory mapping practices.

Most of these activities were conducted in *Ibla*, the historical area of the city, within underutilized public goods, such as the buildings named *Palazzo Cosentini*¹ owned by the Municipality of Ragusa, and *Palazzo La Rocca* owned by the *Libero Comunale di Ragusa* and within which workshops were held with the participation of numerous young

¹ A section of this historical buildings, since 2016, is used by L'Argent. In this building the Bassi comunicanti project was implemented (<https://www.bassicomunicanti.it/progetto/>) from 2016 to 2019. *Bassi Comunicanti* is a cultural incubator that supports young people who want to transform their ideas into artistic and cultural projects or businesses. The project is an important opportunity for local development that, thanks to partners such as Hub Siracusa and Farm Cultural Park, will allow young participants to know realities and methods of cultural development not yet explored on the territory. *Bassi Comunicanti* intends to focus on art, creativity and culture to promote entrepreneurship and youth employment through the enhancement of the bases of Palazzo Cosentini in Ragusa Ibla. Bassi Comunicanti is an initiative funded by the Department of Youth and National Civil Service, following the Public Notice «Young people for the enhancement of public assets» of the Presidency of the Council of Ministers. The leader of the project is the Association of Social Promotion L'Argent of Ragusa, which together with the City of Ragusa, A.P.S. Lebowski, The Hub Sicilia A.P.S. and the Cultural Association Farm Cultural Park, will coordinate all activities.

representatives of associations² active in Sicily, in the enhancement of tangible and intangible heritage.

This first planning level was preparatory for the next two project levels. The need was to activate participatory mapping processes, knowledge and discovery of the territory, through the creation of a dialogue and the establishment of care relationships with the inhabitants of the neighbourhood.

Co-creating a cultural event: the second level of the project, which lasted about three months, was dedicated to the co-organization of a final cultural event called *Caccia ai Balconi*. The aim was co-creating a prototype, an innovative model for the use of unused public cultural heritage, through art, beauty and youth creativity.

In the *Caccia ai Balconi*, (an urban treasure hunt), was used the pedagogical device of street game (play) where people through riddles and questions discovered our city and our heritage.

The final event was held on 26 and 27 September 2020, the street game triggered and activated processes of active participation in the area: workshops for children were organized in abandoned streets of the historic center, installed works of art, by the *Collettivo Ocra*, with the aim of transforming it into a space that the community recognize and start to take care. Furthermore, during the final event inside the historical building *Palazzo Cosentini* an exhibition was installed with the drawings of the children that attended the neighbourhood workshops.

It was projected also a documentary video with the voices of the elderly inhabitants of the neighbourhood who decided to tell the story of the community and recount about themselves. This story allowed us to weave not only tangible culture, but also the story of a constantly changing community.

Spaces for young people, in the city of Ragusa there is a real difficulty in accessing public goods due to a slow and complex bureaucracy.

The third and last stage of the project was born from the desire to reduce the distance between young people and cultural heritage by simplifying the access and use of the goods. It has been defined as a memorandum of understanding between associations and the municipality. Now there is a catalog called *Spaces for young* where it is possible to find historic buildings, exhibition spaces and use it for the development of cultural and creative activities.

² For example, the *Trame di Quartiere* Community Cooperative that works in urban – social and cultural redevelopment projects in the San Berillo district in the city of Catania. O *Le Vie dei Tesori*, born in Palermo in 2006 through the cooperation of a small group of journalists and cultural operators engaged in the enhancement of tangible and intangible heritage.

Methodological Notes

From an empirical point of view, the study aimed to evaluate the educational and pedagogical implications of the *Tessere Cultura Project*.

Our goal was not only to describe the contexts and generative challenges of those processes but try to understand how learning occurs, and the involvement of young people to the participation.

Our field work started with two specific research questions:

- How has urban space evolved as (informal) formative space?
- What processes of activation and transformation have occurred in young people?

Through an auto-ethnographic analysis (Ellis, Bochner, 2000; Roth, 2005) conducted over a year (October 2019 – December 2020) we identified numerous positionings in the study's context, including those of a researcher, participant-observer, designer, and activist, all while working in a continuous field of research and total immersion. The auto-ethnographic report has become a cognitive tool full of meanings acquired in the field, useful for increasing hermeneutic perception and knowledge about spaces, and the actors of informal education, in the urban space.

This methodological device also becomes a reflective practice useful for understanding and improving the practice (Mortari, 2003; 2007), leading designers and activists to be continuous ethnographers of themselves (Gobbo, 2012).

2. Urban space as (informal) formative space

Despite de-urbanization and civic disengagement processes, the urban space provides numerous learning opportunities (Borgogni, 2019; Bourke, 2017; Pintus et al., 2019) by fostering civic awareness and encouraging young participation. Indeed, the local community becomes a space of deep learning as a result of cultural affinities, the transmission of implicit and explicit values, the generation of meanings and symbols that emerge and spread over time (Calandra et al., 2006).

In this project, the city of Ragusa has become the privileged setting were to create an informal formative education practice with two specific goals: on the one hand, to give value to an inestimable cultural heritage (Patrimonio UNESCO), often perceived as something wonderful and at the same time untouchable; on the other hand, to give an opportunity to the many young people who have trained in cultural heritage and creative production and who are nevertheless forced to leave Ragusa, both for the limited opportunities for cultural enjoyment and because they do not find and support to transform their skills into job opportunities

The corpus of ethnographic notes gives us the story of an educational practice in a marginal urban context and also a story of care and responsibility towards the territory.

A central role was played by the associations promoting the project: L'Argent and Astraco, that over the years have promoted participatory activities from below and have practiced constant work for and in the community. The material and immaterial heritage, in this specific case, has become a pretext for conducting an education in beauty (Marchetti, 2020) through experience and immersion within the good itself. The choice of the street as a space for informal education, participation and co-planning as a prerequisite for meeting capable of strengthening social ties and promoting a sense of belonging to places (Guerra, Ottolini, 2019), particularly useful in a moment history in which due to the COVID-19 pandemic we have stopped living our daily spaces.

In the end, through the pedagogical device of the game it was possible to build new discoveries, promote new social skills and weave new relationships also in an intergenerational key. At the beneficiaries of the project have been granted the opportunity to discover the city, the freedom of care, the awareness and the responsibility towards the territory. It is in this relationship of care, in this form of youth participation and education in territoriality, in a renewed protagonism of citizens that the sense of belonging to a community is manifested (Iorio, 2019).

3. Conclusion

The *Tessere Cultura* project had a formative and transformative impact on the participants and the local community. Knowledge of material and immaterial cultural heritage has become a means of bringing young people closer to their city through the implementation of workshops, formative activities, and interviews. The young participants encountered marginal urban spaces and developed a relationship with the commons good that goes beyond mere enjoyment (Ruggiero, Graziano, 2018).

From the hermeneutic reading of the data, emerged that collaborative and cooperative processes of participation of the inhabitants and care relationships have been activated. The city has also undergone the transformative effects of this project with the reactivation of previously disused spaces and the enlargement of the right to use the goods. The city of Ragusa has become an informal learning space, through the device of the game. Art and cultural heritage have assumed the function of a bridge between informal education and the territory.

This project was able to elicit collaborative and cooperative processes of participation from the local residents, as well as to activate practices of continuous care for the city. In light of the recent debate on civic education and the promotion of inclusive processes in the pursuit of active citizenship, this project will be significant for ethical and political implications.

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International Youth Work: Assets and Challenges

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ABSTRACT: *Youth work is known as an ideal space for non-formal education and informal learning. International youth work is expected to offer additional advantages for young participants, for instance opportunities to acquire and improve language skills and intercultural learning. Transnational research analysing the assets, but also the challenges and potential for improvement of international youth work in different settings is, however, scarce. This lack of research explains, in part, the continuing lack of recognition of non-formal education and learning in the youth field and when it comes to international youth work and learning mobility.*

The RAY (Research-based analysis of European youth programmes) Network is an open and self-governed European research network of National Agencies of the European youth programmes and their research partners, counting currently with 36 partners in 34 countries. The network conducts mixed-method research on international youth work and the European non-formal education programmes 'Erasmus+/Youth in Action' and 'European Solidarity Corps'. These programmes focus not only on youth learning mobilities but also on cooperation for innovation among youth work organisations, on support for youth policy and for sports, among others. This paper presents findings from different RAY research projects monitoring and analysing the European programmes. It also gathers findings of projects focused on the programmes' effects on participation and citizenship of European youth, capacity building of European youth workers, citizenship education and learning made available for the youth, and the effect of the corona pandemic on European youth work.

Main results show that International youth work offers prolific ground for informal learning processes and competence development, related but not limited to active citizenship and multiculturalism. However, it is also shown how non-formal education has largely ignored digitalization and currently faces a major challenge in adapting its methodological approaches to face-to-screen situations. It has, in other words, confined itself largely to physical, face-to-face formats – leading to additional difficulties in the context of the corona pandemic.

KEYWORDS: *Youth work, Erasmus+/Youth in Action, EU Youth Programmes, Non-formal education*

Introduction

Youth work is often considered an ideal space for non-formal education and informal learning (Rannala, Dibou, 2020), offering opportunities to combine different learning concepts, without excluding formal learning (Norqvist, Leffler, 2017). The European Commission (2018, 3) defines youth work as follows: «civic and socio-educational activities (youth work) that give young people life skills and act as a bridge to society, especially for disadvantaged youth», showing how deeply rooted the relation to development and skills is and how important the inclusion of disadvantaged young people is considered. The same document offers examples of the expected skill development, underlining the non-formal character of the learning happening in youth work:

Youth work brings unique benefits to young people in their transition to adulthood, providing a safe environment for them to gain self-confidence, and learn in a non-formal way. Youth work is known for equipping youth with key competences and skills such as teamwork, leadership, intercultural competences, project management, problem solving and critical thinking. In some cases, youth work is the bridge into education, training or work, thus preventing exclusion. (European Commission, 2018, 6)

That young people indeed find a space for exploration, self- and skill development in these contexts and the positive impact of participating in youth work for young people from marginalised backgrounds has been shown in different studies (Ord et al., 2021; Sonneveld et al., 2021; Sonneveld et al., 2020).

International youth work is expected to offer additional assets related to the experiences abroad, namely the acquisition of language skills and intercultural learning, but also social and personal competences, such as self-organisation and teamwork (Gretschel et al., 2017). International youth work seems to take the general assets from youth work a step further. Moreover, Merico et al., (2019) show how international youth work and in particular the European youth programmes contribute to the professionalisation and recognition of youth workers and non-formal education.

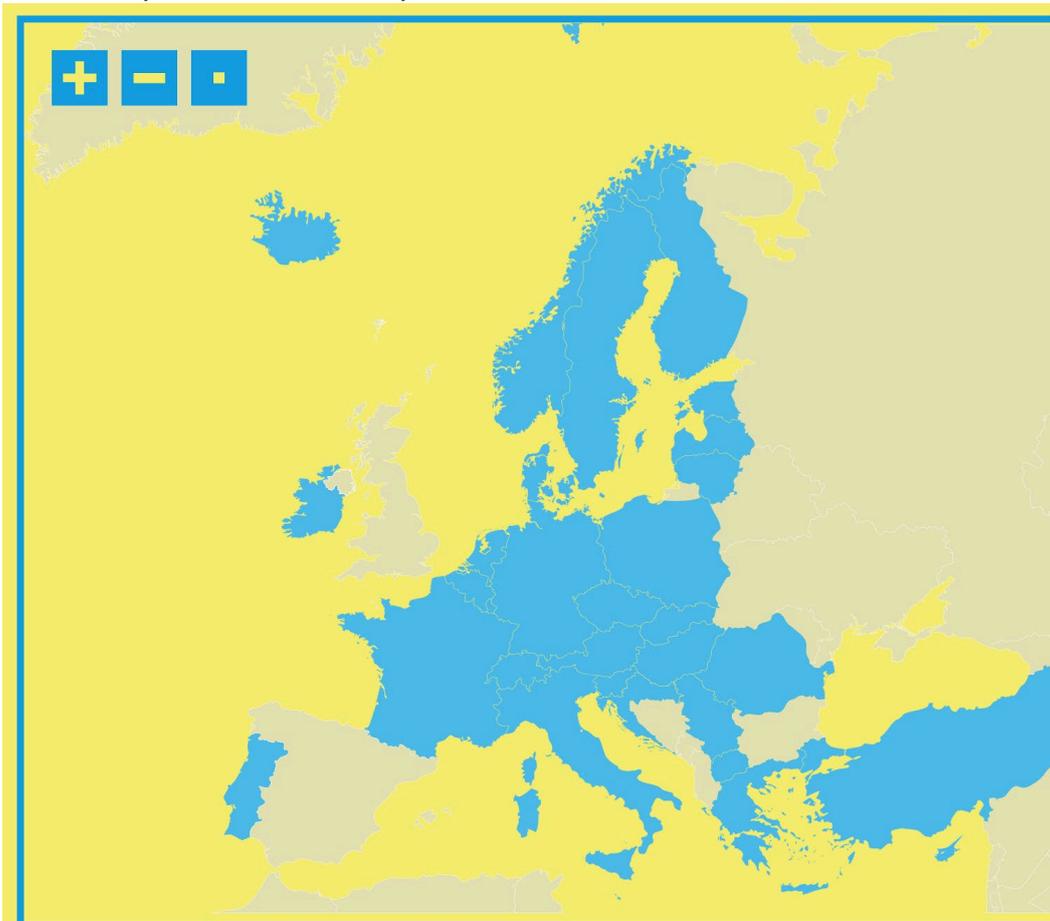
Transnational research analysing the assets, but also the challenges and potential for improvement of international youth work in different settings is, however, scarce (Norqvist, Leffler, 2017). Evidence-based analyses can contribute to more adequate policies and a better recognition of non-formal education and learning in the youth field and when it comes to international youth work and learning mobility (Chisholm et al., 2011; European Commission, 2018).

In this article, we contribute to closing this gap by analysing what different RAY-projects can tell us about the assets and challenges of (international) youth work. We offer, furthermore, recommendations on how to tackle these challenges.

1. RAY Network and Projects: Research-based analysis of European youth programmes

The Research-based analysis of European youth programmes (RAY) Network is an open and self-governed European research network, funded in 2008 (Böhler, Karsten, 2021). Members are National Agencies of the European youth programmes and their research partners, currently including 36 partners in 34 countries (see Fig. 1). The network conducts mixed-method research on international youth work and youth learning mobility, in particular the European non-formal education programmes 'Erasmus+/'Youth in Action' (YiA) and 'European Solidarity Corps'. It promotes dialogue between research, policy and practice, and contributes to evidence-based youth policy development in the youth field in Europe.

FIG. 1. *Map of RAY Network partners*



Source: RAY-Network, <https://www.researchyouth.net/network/> (2021)

The RAY-Network has been conducting a wide range of different research projects over the years. At the heart of our work is the monitoring of 'Erasmus+/'YiA' and the 'European Solidarity Corps' for which we have conducted surveys in 29 different languages since 2014, building on our previous «standard surveys», started in 2007.

In RAY we distinguish «project leaders», «project participants» and «youth workers and youth leaders». While «Project leaders» are responsible for the execution of a project, «youth leaders» are understood as persons taking up a similar role as a youth worker, without identifying or being formally considered a youth worker. Project participants are people participating in a project; depending on the project this can be youth workers, youth leaders, young people or other actors.

In total we achieved more than 69.000 fully valid responses in the time span from 2007 to 2020. Most of these responses come from the programme generations 2014-2020 with 56.691 fully valid responses from project participants, 11.484 from project leaders and 1.227 from project organisations. Furthermore, more than 5000 respondents completed our thematic surveys. We conducted more than 1.000 interviews, more than 200 focus groups and more than 100 case studies. Though our focus is on the European Youth Programmes, we started in 2020 our first project looking at the European youth sector as a whole, in this case to study the effects of the Corona pandemic on youth work in Europe (RAY-COR).

In this article we draw on a selection of projects directly or indirectly relating to non-formal education and informal learning (see Table 1).

TAB. 1. *Overview of selected RAY-Projects.*

<i>RAY-Project</i>	<i>Aim</i>	<i>Duration</i>	<i>Participating Countries</i>
<i>RAY-MON: analysis and monitoring of Erasmus+/YiA</i>	contribute to monitoring and developing Erasmus+/YiA and the quality of projects they support	2014-ongoing	ALL RAY NETWORK MEMBERS that are funding countries of Erasmus+/YiA
<i>RAY-SOC: analysis and monitoring of the European Solidarity Corps</i>	contribute to 1) quality assurance and development in the implementation of the European Solidarity Corps, 2) evidence-based and research-informed policy development, and 3) the understanding of volunteering, working, learning, training and youth activism in the context of solidarity actions of young people.	2019-ongoing	ALL RAY NETWORK MEMBERS that are funding countries of the European Solidarity Corps
<i>RAY-CAP: competence development and capacity building</i>	explore how training and support activities for youth workers and youth leaders in Erasmus+/YiA affect (1) their competence development, (2) youth work practice, and (3) involved organisations	2015-2019	17 (Austria, Belgium (Flemish Community), Czechia, Estonia, Finland, France, Germany, Hungary, Ireland, Italy, Latvia, Lithuania, Poland, Portugal, Romania, Slovenia and Turkey)
<i>RAY-LTE: long-term effects of Erasmus+/YiA on</i>	explore long-term effects of participation in Erasmus+/YiA on	2015-2019	11 (Austria, Czechia, Estonia, Finland, Germany, Hungary,

<i>participation and citizenship</i>	participants and project leaders, in particular with a focus on active citizenship and participation in society and in democratic life.		Italy, Malta, the Netherlands, Slovenia and Sweden.
<i>RAY-COR: impact of the corona pandemic on youth work in Europe</i>	document and analyse the effects of the coronavirus pandemic on youth work in Europe, including the European youth programmes, and the response of youth work across Europe to the pandemic and its effects	2020-ongoing	all RAY network members

Source: Own elaboration. For more information on these and other RAY-Projects visit: <https://www.researchyouth.net>

2. Assets

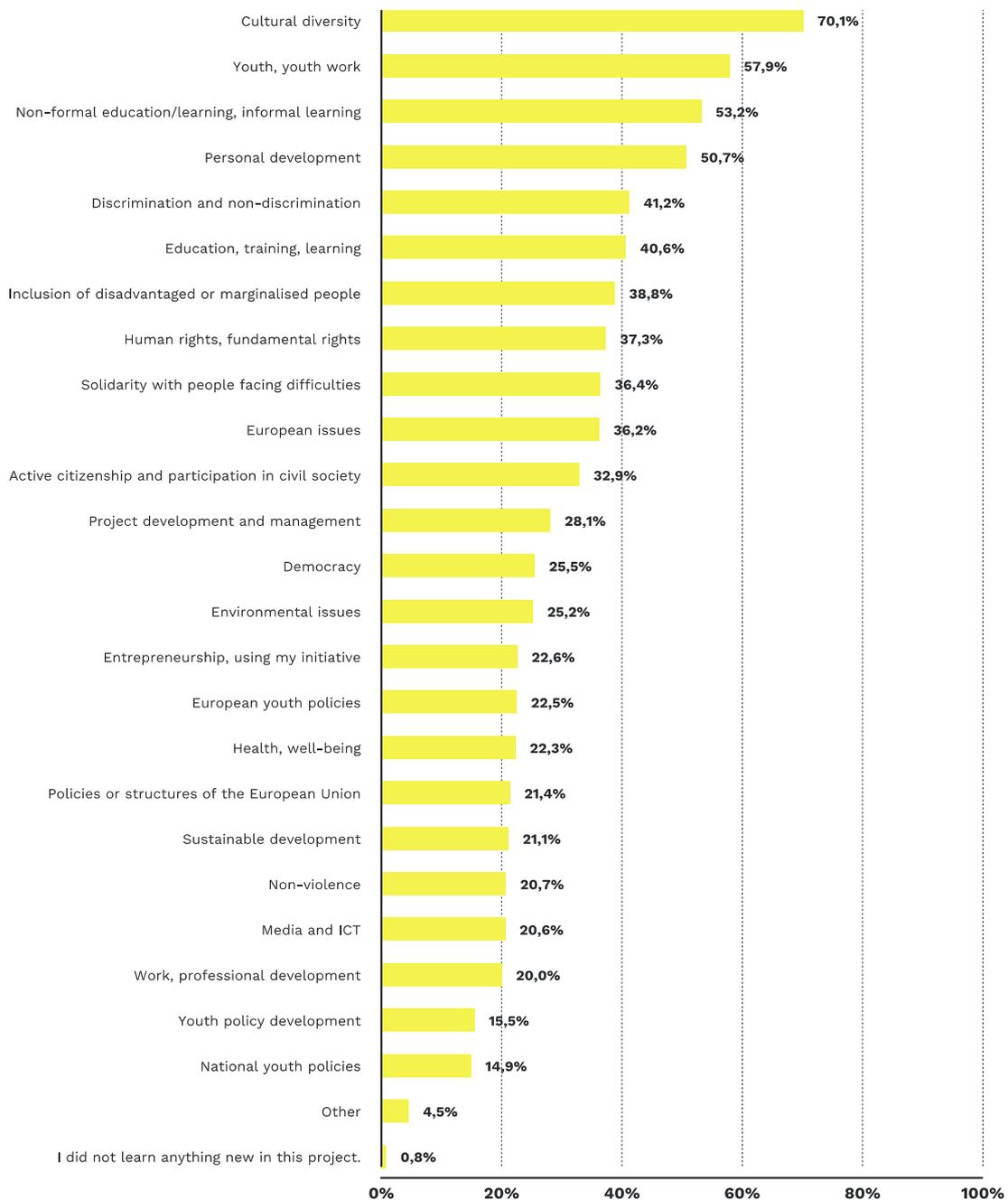
Our review of different RAY-projects highlights an important array of assets and advantages related to the participation in European Youth Programmes. International youth work fosters learning and development and active citizenship, offers a back-up for young people in difficult times, enables youth workers and leaders to develop and feel part of a youth work community and offers non-abusive job programmes, breaking with the currently common scheme of unpaid internships. Many of the funded projects aim at including a diversity of young people, with a specific focus on young people from marginalised backgrounds. The effects of the programmes have proved to be stable over time. Advantages and positive effects of the programmes become hence visible at different levels: participating youth, youth workers and leaders, applying and participating organisations and the receiving and sending communities. Moreover, a certain impact on policy level is described. In the following, we take a closer look at some of these advantages.

2.1. Learning and development

Overall, 97% of responding participants from Erasmus+/YiA projects 'strongly agree' or 'agree' that their participation in the project contributed to their personal development and 87% 'strongly agree' or 'agree' that the project had an impact on their awareness which of their competences they want to develop further (RAY-MON, 2021, 19). Youth workers and youth leaders express the important aspects of their learning in the activities they took part of were «learning in a different country», «learning how to think differently» and «language skills» (RAY-CAP, 2019, 43). In particular interviewees who had joined the activities without concrete expectations expressed satisfaction with the training involving the exchange of information between participants (intercultural

exchange) and learning from others' experiences, highlighting the value of non-formal and informal learning in these projects.

FIG. 2. *Knowledge acquired by participants*



Source: RAY-MON (2021, 14).

While skill development was confirmed to happen both by the surveys and the interviews (RAY-LTE, 2019, 32), knowledge acquisition and fostering of interests were only confirmed by the interviews and did not show statistically significant improvements through the project participation in the quantitative surveys (RAY-LTE, 2019, 22). A closer look at the list of topics offered to survey participants regarding their knowledge acquisition (see Fig. 2), shows that more than 70% consider

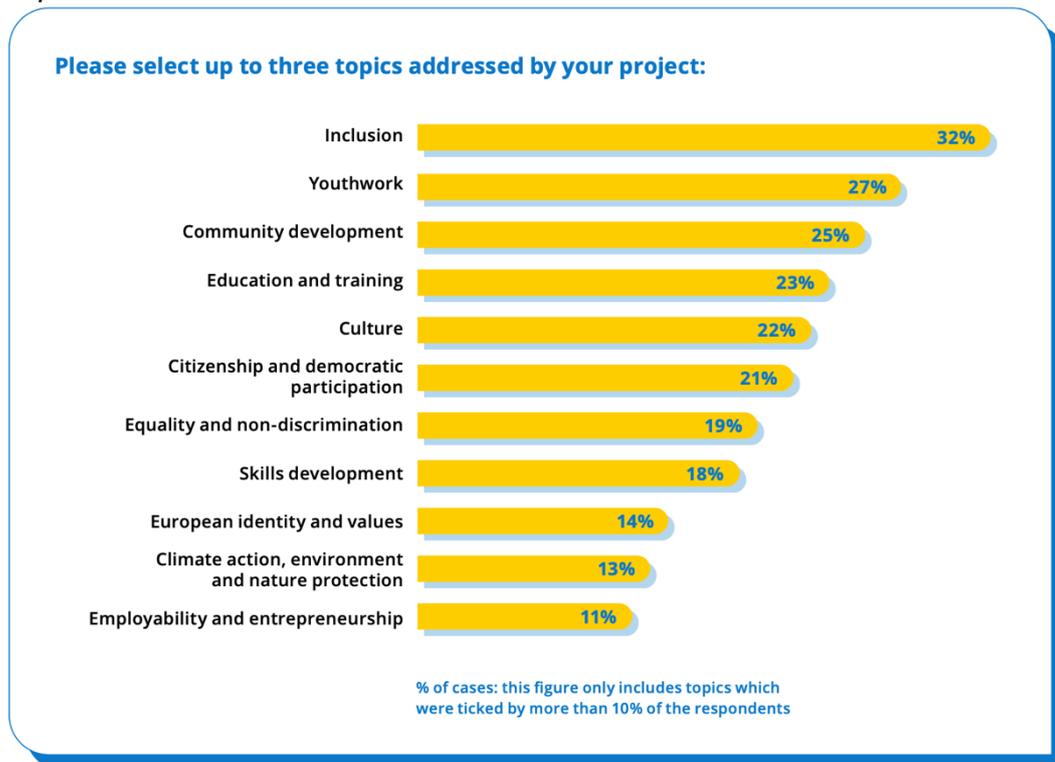
having learned something new about cultural diversity, and more than half of the respondents marked the items «youth, youth work», «non-formal education/learning, informal learning» and «personal development» (RAY-MON, 2021, 14). However, the same question also reveals potential for improvement in several areas of knowledge acquisition, in particular regarding digital skills (see 3. Challenges and Recommendations).

Interviews and surveys provide evidence Erasmus+/YiA projects contribute to the development of skills important for participation and active citizenship, and these developments are persistent (RAY-LTE, 2019, 32). We will analyse this topic in the next subsection in more detail.

2.2. Active citizenship and politics

When the organisations applying for funding through the 'European Solidarity Corps' were asked to select up to three topics from a list with 22 topics they believed to address with their project, responses showed a broad scope of topics. Inclusion ranked highest, followed by youth work, community development, education and training, culture, citizenship and democratic participation (RAY-SOC, 2020a+b) (see Fig. 3). These topics reflect challenges for societies in Europe such as fostering democracy, human rights and social cohesion at all levels.

FIG. 3. Topics addressed by applicant organisations for the European Solidarity Corps



Source: RAY-SOC (2020b: 4)

Regarding participating youth, RAY-LTE (2019) showed they developed interest for new topics in the area of social, political and European issues, in particular in their own countries and in those they visited within the project, and they became aware of a wider range of social issues. Around 85% to 95% of the participants indicated experiences with other participants in the project (including informal time), activities within the project programme, the application of the skills developed through the project and reflection about the project experience contributed to the development of participation and citizenship skills (RAY-LTE, 2019). This suggests non-formal and informal learning, including experiential learning/learning by doing, peer learning and reflection are effective educational approaches and features for developing participation and active citizenship.

As we have seen in the previous section, when asked for knowledge acquisition items related to participation and citizenship were chosen by 15% to 70% of project participants, with cultural diversity ranking exceptionally high, followed by discrimination/non-discrimination, inclusion of disadvantaged or marginalised people in society, human rights/fundamental rights, European issues and active citizenship/participation in civil society and democratic life, all of which ranked fairly high (see Fig. 2). Non-violence, Youth policy development and National youth policies were ranked rather lower. In comparison to other subjects, citizenship topics rank between average and below average, except for cultural diversity with 70% (RAY-MON, 2021, 14). This indicates that even though this skill development and knowledge acquisition happens, it is by far not the field in which most is learned.

The International Labour Organization (ILO, 2020) conducted the Global Survey on Youth and COVID-19 showing youth are demonstrating considerable altruistic behaviors in the pandemic support with nearly 31% of those surveyed indicating a high degree of volunteering and nearly 21% donating to charitable organisations working in pandemic responses. This highlights the importance of young people as active citizens. In our analysis of literature exploring youth-led initiatives, we distinguished four approaches taken by youth: 1) fighting misinformation and information sharing; 2) community support; 3) supporting employment and education; and 4) promoting development and resiliency (RAY-COR, 2020b).

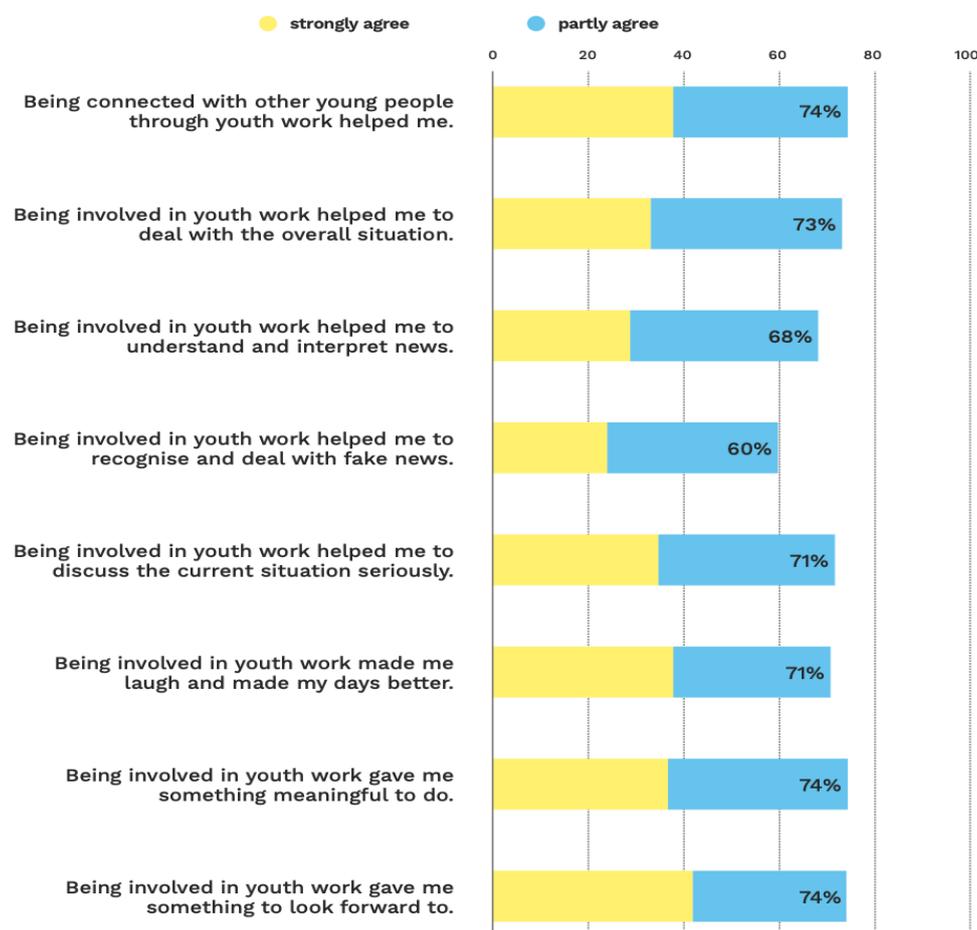
2.3. Back-up in difficult times

In the previous section, we have seen how young people became active and initiated projects to fight the effects of the COVID-19 pandemic. Our survey on youth work in times of corona showed furthermore the importance youth work has for young people in these difficult times. 42% of respondents strongly agree being involved in youth work gave them something to look forward to; 38% strongly agree being connected with other young people through youth work helped them and being involved in youth work made them laugh and made their days better (RAY-COR,

2020a, 12). When combining these answers with the respondents who partly agree to these statements, the percentages surpass 70% for these statements (see Fig. 4). 74% of responding young people agree being involved in youth work gave them something meaningful to do and something to look forward to. Moreover, 68% of respondents strongly agree or agree their involvement in youth work helped them to understand and interpret news and 60% believe that it helped them to recognize and deal with fake news. These findings show the important back-up youth work offers young people in difficult times, offering emotional well-being and empowerment.

FIG. 4. *Answers of young participants in youth work on how youth work helped them during the times of corona*

Q: Has your involvement in youth work helped you during these times?



Source: RAY-COR (2020a: 12)

3. Challenges and Recommendations

A closer look at the European youth programmes shows, in spite of the impressive assets related to international youth work, they are also facing difficulties that need to be tackled. The COVID-19 pandemic, an important challenge in itself, has made another shortcoming of the youth sector

evident: the lack of digitalisation. Considering the scope and centrality of these two challenges, we will analyse them in more detail further below.

Other challenges are related to the previously described assets. Though we have seen that many funded projects aim at including young people from diverse and marginalised backgrounds, the analyses show that more diversity could be achieved. Similarly, impact on local communities and participating organisations could be improved and effects on the policy level could be expanded to the European level, as they are mostly local or national for now. Project leaders also identify issues with the dissemination of projects once the official funding has come to an end. Other mentioned issues are more related to European youth programme-specific aspects, like funding rules and bureaucracy in general, but also difficulties in finding international partners to apply for project funding are mentioned. While the latter could be addressed through more support, guidance and training, simplifications, a more user-friendly application tool and funding for prospective applications could help tackle most of the difficulties related to application. Funding for prospective applications would not only allow applying organisations to spend more time and resources on their application, but could also enable them to include their target groups from the start, designing activities not only *for* but *together with* young people who could like this ensure a better match between activities and participants and a better inclusion of difficult to reach target groups. This is also true for training activities for youth workers and leaders, as in particular more experienced youth workers expressed a need for more advanced trainings.

3.1. Digitalisation and Corona

As we have seen above (see Fig. 2), participants chose a wide range of fields when asked where they acquired new knowledge through their project participation. Media and ICT (Information and Communications Technology) are with 20,6% of respondents the fifth least mentioned item of this list, indicating that few participants from Erasmus+/YiA activities believe to have acquired new knowledge in this field (RAY-MON, 2021, 14). Similarly, two of the three areas with lowest scores in skill development are directly related to digitalisation: to produce media content on my own (66% 'strongly agree' or 'agree'), to discuss political topics seriously (63% 'strongly agree' or 'agree'), and to use smartphones, tablets, notebooks, computers, internet etc. (57% 'strongly agree' or 'agree') (RAY-MON, 2021, 17).

RAY-CAP, focused on youth workers and youth leaders, pointed to similar issues with these profiles indicating the difficulties with digitalisation in youth work are not limited to young participants. Youth workers and youth leaders mentioned digitalisation and youth work and digital issues/topics as marginalised in the provided training/activity and reported digital tools and/or spaces and external inputs were marginalised (RAY-CAP, 2019). This shows digitalisation had already

been identified as a challenge to the youth sector before the COVID-19 pandemic. The European Commission (2018) acknowledged this need by including a call for an adaptation to technological change and digital youth work in the latest EU youth strategy.

In times of corona and in particular in the context of severe lockdown measures, a key aspect of youth work's response across Europe was and is striving to transfer its work to online environments (RAY-COR, 2020a). As one of the respondents to our case studies put it:

Everything now happens online. School is online. Parties are online. How do we make online non-formal learning different? That is the key question we need to find an answer to. (RAY-COR, 2020a, 10)

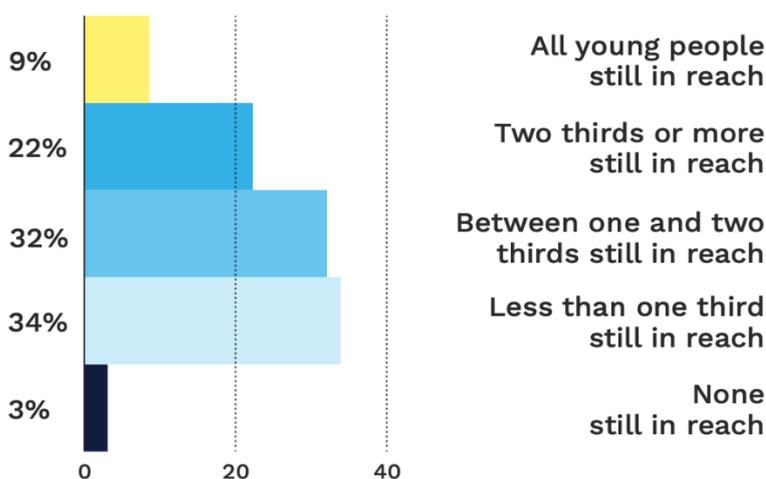
After so much time of largely ignoring digitalization, the youth sector faces currently the major challenge to adapt its methodological approaches to face-to-screen situations. How is the youth sector tackling this challenge? Almost half of all responding youth workers say they have transferred up to half of their youth work to online environments. 17% say they have transferred all of their youth work to online environments, whereas 7% say they have not yet transferred anything online (RAY-COR, 2020c, 11). These numbers can be interpreted in the sense that the quick digitalization of activities was indispensable to persist in this crisis, pushing the youth sector to tackle the digitalization challenge. What happened to the youth work that was not transferred or adapted to a virtual format? For two thirds of responding youth workers, 60% or more of their youth work has been delayed or interrupted. More than 40% of all responding youth workers saw more than half of their current youth work activities at risk to be cancelled (RAY-COR, 2020c). Though this situation could have slightly improved since the survey took place in late 2020, it depicts very clearly how much the youth sector struggled to adapt to confinement measures.

A similar picture is drawn when we look at the reach of young people. Alarmingly high numbers of youth workers consider to have lost reach of a majority of the young people they had been working with before the corona crisis (see Fig. 5). 70% of responding youth workers say they have lost access to more than one third of the young people they normally work with. For 37%, it is more than two thirds (RAY-COR, 2020a).

While these figures refer to young people in general, the picture becomes even worse when young people from disadvantaged backgrounds are considered. In many countries, they do not have access to certain devices, they share devices in their households or do not have any. They struggle participating in online formats of formal education, and are now at much higher risk than before to become school and youth work dropouts (RAY-COR, 2020a). This is particularly worrisome if we consider how helpful youth work is for young people who continue to participate throughout lockdowns. Many young people are facing extremely difficult times and need youth work more than ever.

FIG. 5. *Impacts of Corona on youth work: reaching young people*

Q. How many of the young people you normally work with do you currently still reach with your youth work?



Source: RAY-COR (2020a: 14)

3.2. Recommendations

Youth work is struggling to adapt and many respondents expressed a wish for a different approach in supporting youth work organisations through sustained structural funding. The recognition that quality digital youth work needs to be adequately resourced (RAY-COR, 2020a), is particularly necessary given the youth sector's background where any digital adaptations had to be built from scratch in times of crisis, often by youth workers with no or little experience in online environments and without the possibility to receive training or the necessary equipment. This is sensitively related to funding. While the European Commission (2018, 7) already recognised funding cuts as turning the adaptation to the digital change «challenging» before COVID-19, the EU has for now refused to present a specific youth work recovery plan, arguing this support was already included in other plans. 42% of respondents to our initial online survey say they were eligible to apply for public support programmes set up in response to the corona crisis, whereas 58% say they were not eligible for the programmes in their context (RAY-COR, 2020a). This shows the access to additional funding is not generalized and many youth workers and youth work organisations struggle to adapt to the new context alone. For many, this fight is nothing less than a struggle for survival and many in particular smaller organisations have already disappeared.

Ongoing research is necessary to assess the full impact of the corona crisis on the youth sector and it is too early to say if the devastating picture drawn in these lines will look different once the dust and smoke have settled. What is clear so far is that the youth sector needs specific support now. Without the adequate resources, youth work organisations

are unable to continue to offer quality youth work, to reach young people from a diversity of backgrounds and, in many cases, to subsist. Once the crisis is no longer a question of life and death for youth work, additional support, for instance through specific trainings fostering digitalisation should be tackled. We expect to develop more concrete recommendations soon, drawing on examples from other sectors and contexts and how these managed to support their organisations.

Conclusion

As the evidence collected from different RAY-projects shows, international youth work is in fact doing a great job in achieving many of the expected assets, for instance regarding language acquisition, intercultural competences, skill development and active citizenship. Moreover, youth work in general has proven to be an important back-up for young people in times of corona, giving them something to look forward to, to make their days better and to help them to better understand and analyse the situation, such as distinguishing fake news.

Nevertheless, our research also offers critical insights into the challenges youth work and international youth work face and how these could be tackled. Most concerning are the described difficulties to reach young people throughout the pandemic and the lack of digitalisation. We argue youth work requires more support and resources to better adapt to the pandemic, to develop quality digital spaces and to continue to reach a wide range of young people.

Other challenges related to bureaucratic requirements, application and funding for projects through the EU youth programmes could be tackled by offering specific trainings, guidance and simplifications in the application processes and funding rules. Funding for prospective applications is furthermore key to lowering the workload inflicted on applying organisations, allowing them to design their projects *together with* rather than *for* young people, ensuring the proposed activities match the youth's needs and interests best and attract young people who are more difficult to reach for now. Funding for the dissemination and follow-up of concluded projects could end issues with visibility.

The RAY-network is currently preparing and conducting further projects, through which we expect to offer more insights soon. In particular our projects on participation, citizenship education and learning (RAY-PART), digitalisation (RAY-DIGI), competence development and capacity building (RAY-COMP) and strategic contributions of the European youth programmes (RAY-STRAT) are of interest in this sense. Follow our activities and keep posted with any updates and new publications.

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Serious Games and non-Formal Learning in the Classroom: The Experience of *Sicuri si diventa*

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ABSTRACT: *This paper presents the results of a two-year participatory research conducted in 7 Italian schools with the goal of developing a new educational ICT tool about occupational safety that could provide a support for work-based learning programs that are currently mandatory in Italian high schools. Feedback from distinct groups of high-school students and teachers was collected and analyzed before, during and after the development of the tool, to co-create a product that could promote learning through experience and 'skills-based' learning, while drawing from the resources and interests that are part of young people's everyday life. The main output of the research was a serious game titled Sicuri si diventa (Becoming Safe), a role-playing game that can be used in and out of the classroom to help students become acquainted with health and safety regulations and to promote awareness about safety at work. We argue that the prominent levels of satisfaction shown by the students who tested the game prove that this kind of non-formal learning experiences provide a valid support to formal training and a useful addition to structured school programs.*

KEYWORDS: *Serious games, Non-formal learning Participatory methods, Work-based learning, Health and safety at work*

Introduction

As Roger Caillois (1958) has argued, in early industrial societies play has for a long time been considered nonproductive, an activity that carries no obligation, is free of real-life consequences, and has as such been banned from school and the workplace. However, with recent changes in the economic and cultural context, games and play have acquired a new significance. Play is based on simulation, like theatre, and, it is, for example, crucial for children in their processes of emotional and cognitive learning (Piaget, 1945). Games are now a staple in adult life too, and may take various forms, among which video games occupy a prominent place. It is estimated that in 2019, 39% of the Italian population between the age of 6 and 64 has played video games at least once, with slight differences among genders (53% of men and 47% of women) and the highest concentration in age groups 11-24 and 45-64 (Iidea, 2020).

Gamers have also given life to a thriving industry, which has been steadily growing for the past 15 years, reaching in 2019 a total revenue of 1.787 bn euros in Italy alone (ibidem). This data is impossible to ignore, and beg the question: can we consider video games as «cultural objects» (Griswold, 1994; Schudson, 1979) that have become relevant and meaningful for diverse groups of people? However, as Granic et al., have observed:

Against this backdrop of nearly ubiquitous play, the popular press regularly pulses out urgent warnings against the perils of addiction to these games [...] especially in children and adolescents. Indeed, the vast majority of psychological research on the effects of 'gaming' has been focused on its negative impact: the potential harm related to aggression, addiction, and depression (Granic et al., 2013, 67).

Notwithstanding, at the same time extensive research has been carried out regarding the benefits of video games in several different domains, like the «cognitive (e.g., attention), motivational (e.g., resilience in the face of failure), emotional (e.g., mood management), and social (e.g., prosocial behavior)» areas (ivi, 66). Schouten et al., have argued that, in a complex field such as city-making, games and play can help construct a special quality of social bonding, by acting «as critical tool(s), e.g., procedural rhetoric that allow people to reflect on the future of their cities», and «to imagine possible alternatives» (Schouten et al., 2017, 24). Moreover, games are increasingly used as educational tools in a variety of contexts (Gee, 2006). As several studies have shown, game-based learning can promote student motivation and interest in the subject matter by adding an element of «fun» and the opportunity of first-person experiences: this makes learning not only more enjoyable and compelling, but more effective as well (Prensky, 2002).

The research presented in this paper moves from the assumption that the use of video games can also be introduced in structured school curricula, as 'non-formal' support for formal education programs. For our analysis, we define «non-formal learning» (or contextual learning) as the result of practices embedded in planned activities that are not formally designed for teaching, but which can contain an important learning element (Colardyn, Bjørnåvold, 2005). We focus here on a specific type of video games, «serious games», whose primary purpose is to inform, train and engage rather than pure entertainment: using storytelling, these games transport the player into the «serious meaning» behind the game action (Michael, Chen, 2006). As Zhonggen has observed,

Serious games are referred to as entertaining tools with a purpose of education, where players cultivate their knowledge and practice their skills through overcoming numerous hindrances during gaming [...]. Educational elements can be integrated into the gameplay, which will be subconsciously acquired by the players during the gaming process (Zhonggen, 2019).

Our paper discusses the results of a three-year research project which set the main goal of creating an ICT tool to be embedded as an educational support in occupational health and safety training, which is currently a curriculum requirement for work-based learning (WBL) programs in Italian schools. Students and teachers from 7 Italian schools were actively involved in the co-creation of this tool, which eventually took the form of a serious game on occupational health and safety, called *Sicuri si diventa* (Becoming safe). The experience gained from the process of development and testing of *Sicuri si diventa* is used here to explore the role and potential of non-formal, ICT-based educational tools in a formal teaching environment.

1. The project

Serious games, research has shown, have proved to be an effective tool for educators in a wide range of different learning contexts (Carvalho, 2017; Zhonggen, 2019). In this specific variety of video games, educational elements are part of the gameplay and players are thus engaged in learning activities through fun and entertainment: easiness in use, surprises in the story-script, and open-ended situations have been found to be influencing factors for the effectiveness in learning outcomes, especially among young players (Iten, Petko, 2016; Wouters et al., 2017). Although they might be classified as a non-formal, ICT-based learning activity, serious games can be easily integrated into multiple learning environments, including the structured learning that takes place in middle and high school.

Sicuri si diventa was developed in the context of a project that saw the collaboration of the University of Bologna with INAIL (Italian National Institute for Insurance against Accidents at the Workplace) and local health authorities from 3 different Italian regions (AUSL di Modena in Emilia-Romagna, AUSL di Viterbo in Lazio, ASUR Marche), as well as 7 schools that offered 3 different academic curricula (agriculture, construction and architecture, industry and craft trades), located in the same regions. The objective of the project was to draw interconnections between three different key dimensions: the technical-normative stance inherent in the health and safety training; the limits posed by school programs; the students' needs and beliefs.

This was achieved through different actions and methods:

- A focus on the role of social practices (e.g. communities of practice);
- The use of participatory methodologies;
- The promotion of reflexivity and role-taking among students;
- Identifying peer-to-peer ambassadors/influencers;
- The use of non-formal contexts and languages;
- The promotion of awareness regarding rules and regulations.

2. Methodology

Our research was structured in 8 steps, based on participatory methodologies in order to build a process of co-construction framed in social communication theory (Lefebvre, 2012):

- Qualitative research in 4 Italian high schools, involving 12 teachers and 60 students. We conducted individual interviews and focus group discussions about their representations of risk in general and in the workplace, but also regarding their experience with learning and teaching health and safety-related subjects.
- These meetings also served to create a smaller group of 12 students that voluntarily offered to act as «peer ambassadors», with the task of conducting additional interviews to friends and acquaintances and collaborating with us (face-to-face and via an instant messaging platform) during the design phase of the video game.
- A quantitative survey, in collaboration with health professionals from the health authorities involved in the project, submitted to 277 students (63% boys and 37% girls) of the last three years of 7 high schools, to verify our knowledge of their representations of risk and learning activities on safety, and to evaluate their skills in risk prevention.
- Design of a project for a serious game on occupational safety based on our analysis of the main findings from the previous phases, as well as on the results of a second questionnaire submitted to 49 students of 2 high schools to evaluate the beta version of the video game, and on informal and formal dialogues with teachers and health professionals.
- Development of a beta version of the serious game *Sicuri si diventa*, in collaboration with the developers of a software house.
- Organization of a competition involving 75 students of two high schools divided into teams, who were asked to test the beta version of the game.
- A user survey about the satisfaction and commentaries on the videogame, submitted to the 75 students who tested the game.
- Development of the final version of the video game, which was perfected according to the observational and quantitative findings, and then tested in a competition held during a national event with 39 students from 2 different schools.

3. Representations of risk and safety among young people

The qualitative and quantitative findings from the first two phases of our research gave us a clearer image of the representations and definitions of risk among young people who are about to make their first experience of the workplace. In particular, the main interpretative frames (Entman,

1993) that we could identify from the discussions developed during the focus groups were: 1. Necessity (to work and therefore to take risks); 2. Making profits (as entrepreneurs, which again requires accepting risks); 3. Being challenged (as a positive, desirable aspect of work); 4. Experience as the most valuable protection (it is often, but not always, useful to avoid risks); 5. Fate as unavoidable (e.g. «We cannot prevent everything», and anyway a minimal distraction or machine malfunction can always render any previous knowledge useless). Among the most significant quotes from the students involved in the focus groups, several touched on the ideas of 'fatalism' and the importance of using 'common sense' in the workplace:

A more dangerous job pays more

You may get hurt, but in the end it is still acceptable, your life is not ruined

It is more comfortable to work without safety gloves or masks

The combine harvester is dangerous, but you have to use it

A little common sense is enough... it's not like you can go to work wearing flats

Therefore, many interviewees suggested that risk at work is often associated with the need to save time and to save money and, consequently, to maximize a company's and the workers' profit. In this narrative, the line between acceptable and unacceptable risks becomes progressively more blurred, with some of the students even implying that workers can, after all, accept to sustain minor injuries and that accidents, unless they cause permanent physical damage, can be a part of a person's work experience. This perspective also includes an underlying fatalism which relies on «common sense», rather than on the respect of rules and regulations, to avoid accidents and preserve the health of workers. Significantly, also recurring in the students' answers is the concept of «experience». Trust, they argue, is easier to place in older colleagues who, in time, have acquired enough experience to guide and teach them how to be safe in the presence of risks.

The findings of the survey confirm these trends, especially regarding the strong association between risk and fate (e.g., the unexpected), risk and lack of attention, rush, convenience, and habit (see figs. 1-2). These same aspects also emerge from other control questions, for example we can see that the lack of attention is considered the third most dangerous risk, after two events – fall from heights and cutting.

The perception of danger and risk inherently associated to the workplace is confirmed by the results shown in fig. 3, where working is considered more dangerous than car accidents or even home accidents (dramatically underestimated by our interviewees). Moreover, the

construction sector is represented as the most dangerous, underestimating other extremely dangerous sectors such as agriculture.

Partially different results emerge from qualitative and quantitative data concerning the students' evaluation of the effectiveness of health and safety training at school. While the small percentage (27%) of the students who have attended safety courses generally consider them useful, in the focus groups students explicitly point to the excessive abstraction of «boring power point presentations», as opposed to the effectiveness of direct experience. However, when the survey asks to rank six forms of training from most to least effective, almost half of the respondents (N=235) indicate «direct experience» as the most effective form of health and safety training, while 39% think that traditional lectures, like the ones they are required to attend at school during institutional health and safety training, are the least effective. It is particularly interesting to note that 'simulations' are considered the second most effective form of training (fig. 4).

FIG. 1. Words associated with risk (% of answers 8-10 on a scale from 1 'None at all' to 10 'Very much'. N=277).

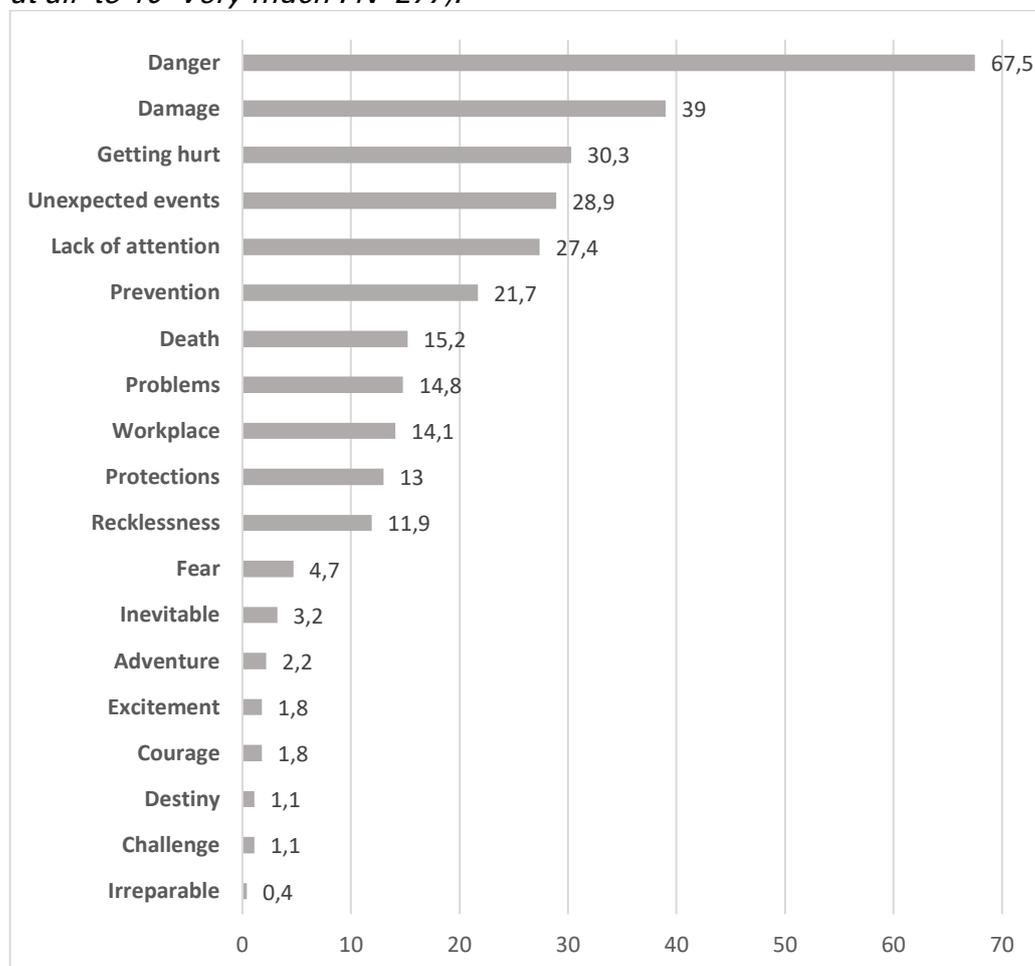


FIG. 2. *Why do you think people take risks at work? (% of answers 8-10 on a scale from 1 'None at all' to 10 'Very much'. N=277).*

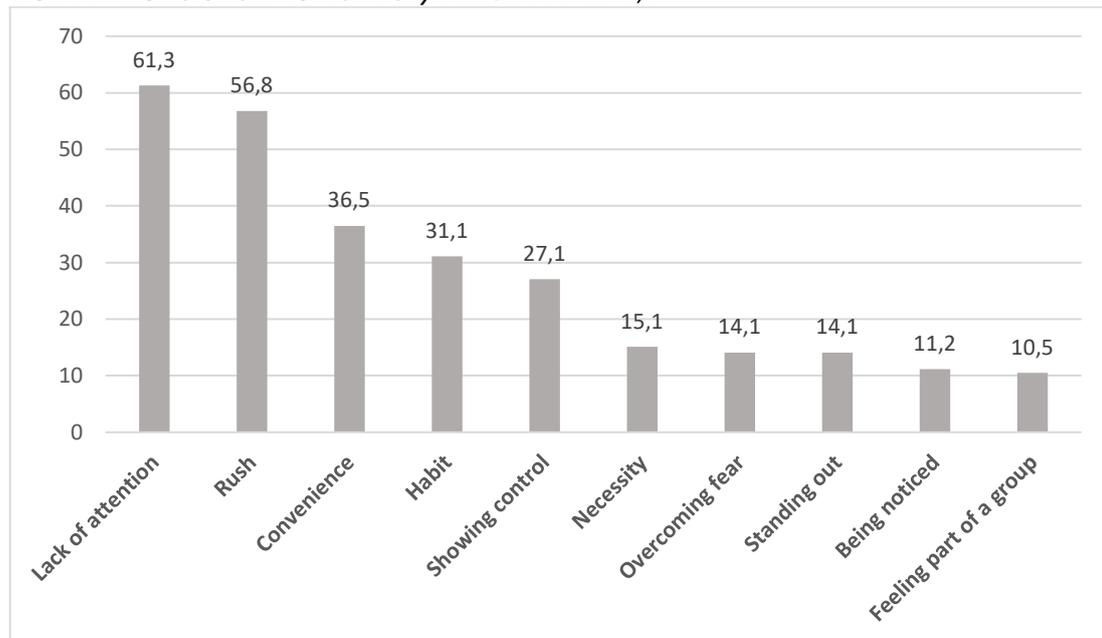


FIG. 3. *Activities associated with risk (% of answers 8-10 on a scale from 1 'Not at all' to 10 'Very much'. N=277).*

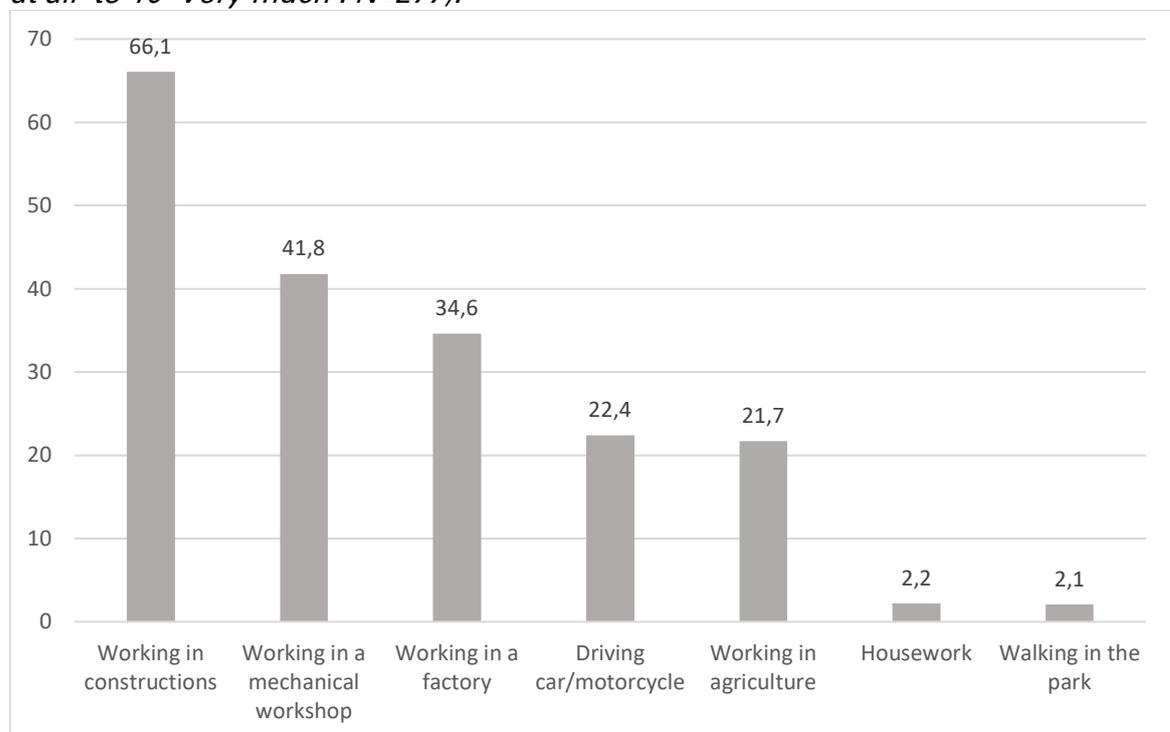
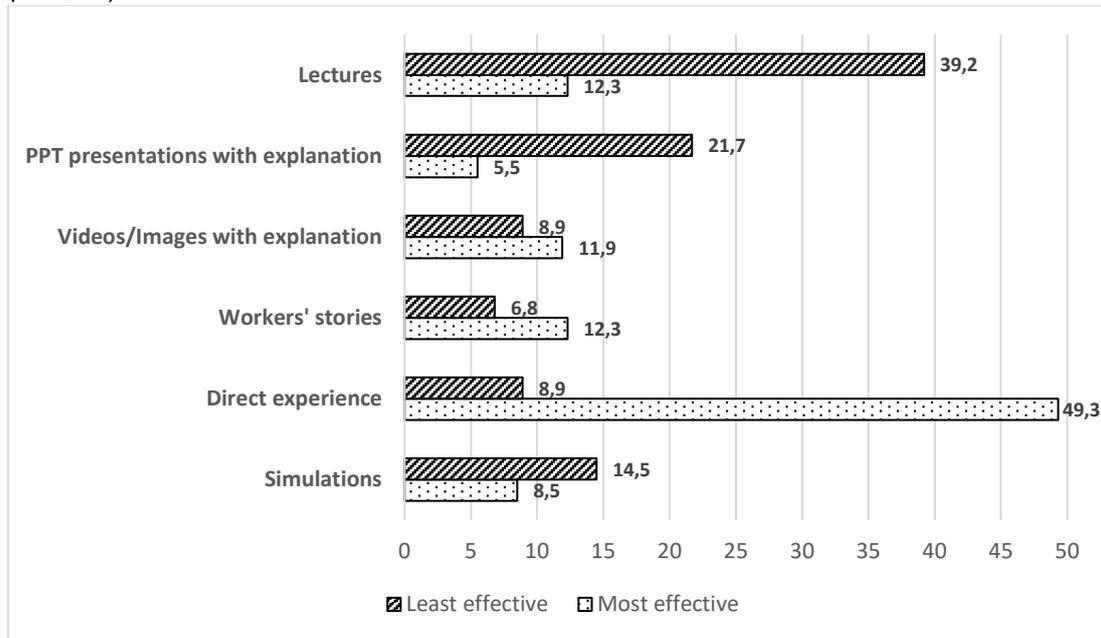


FIG. 4. Percentage of types of training considered most and least effective (N=235).



4. A serious game on health and safety: the making of *Sicuri si diventa*

These findings suggest that any kind of active promotion of health and safety in the workplace has to consider two different perspectives that interact with each other in the process of definition of risk: the expert-technical perspective and the perspective of social practices. In fact, our analysis points especially to the social nature of the representation of risk, which is shaped by cultural frames that are internalized through an individual's socialization in a group or an organization. Based on this assumption, we collaborated with health professionals and technicians to design a series of typical situations that could be translated into young people's languages and experiences that they are likely to encounter at work. The main goal was to recreate a range of choices with which students may be confronted in real life, so that they could have a first-hand experience of the consequences attached to each possible course of action. Moreover, we needed a tool that could support both individual empowerment and teamwork, to foster sharing practices and mutual improvement.

These objectives could be attained only by actively involving the students in the design of the gameplay mechanics as well as in making the main decisions regarding the educational content of the final video game. The very idea of choosing a video game as a learning tool on health and occupational safety for young people stemmed from the suggestions given by students and teachers in the course of the research. The researchers then collaborated with a team of developers to create a new game-play experience, while also keeping a close eye on the latest

trends in gaming for young people, and especially for the age group that was relevant for the purposes of the project. The technical contents – in terms of rules and regulations for health and safety in the workplace – were negotiated with health professional and health and safety technicians.

Sicuri si diventa has been designed as a learning tool and as support to mandatory training, to be used in and out of the classroom to help develop a health and safety culture beyond the teaching of technical and legal issues. A key goal of the project was to achieve engagement through fun and entertainment, which, as the literature on serious and educational games suggests, is one of the positive outcomes of playing games. The structure of the game encourages interaction, since it is designed to actively engage the players' agentic behaviors. Testing conducted with groups of high-school students has shown that the game is suitable for both individual and team play and therefore can be played cooperatively or competitively. It can be played on different devices, from PCs to smart devices like tablets or smartphones.

It is a management simulation game set in a 3D environment with a third-person overhead view, a choice that allows the player to navigate the game easily and move rapidly through the different scenarios. The main scenarios include simplified versions of three different work environments – agriculture, construction and manufacturing – graphically translated in the style of some of the most popular video games among the target users of the project (i.e. cubic and pixelated, similarly to games like Minecraft that are widely played among young people). The goal of the game is to win a race against time to prevent accidents, protect workers and build a safe workplace. The overall tone, sound and graphics are left intentionally unobtrusive in order to create an immersive role-playing experience for the player. Each student can play the role of a junior health and safety manager, initially guided by a senior manager who explains the basic rules and regulations that have to be followed to guarantee the workers' safety. The senior manager then leaves, entrusting the player with the responsibility of keeping the company productive and safe at the same time.

In order to achieve goals and gain points the player has to apply safety rules and learn about their context of use: by enhancing safety and preventing accidents, the safety manager ensures the mental and physical well-being of the workers and eventually helps the company become more successful and grow in terms of number of workers and overall production. As we observed, the focus on the conceptual equation between safety and business growth was one of the key suggestions that emerged from the interviews with students, which often contained references to the commonly held belief that the application of health and safety rules inevitably involves a loss of time and money for both entrepreneurs and workers. Therefore, the game includes progressive incentives and prizes: for example, each day without accidents is rewarded with credits that can be invested in new materials or the

introduction of additional workers. At the same time, whenever a worker suffers an injury, the player loses points and positions in the high-score table.

The interaction mode follows the gameplay mechanics typical of a puzzle-platformer game in an RPG context – where the player has to drag and drop objects and tap or click to use them. Some of the students suggested the introduction of a competitive element to the game, which was added in the form of customizable online high-score tables that allow for team competition between classmates, classes or even schools. Each player can customize their workers' identity by choosing a nickname, the color of hair and clothes and skin tone.

5. Learning while having fun: analysis of the players' satisfaction

The use of participatory methods highlighted the importance of taking into account the point of view of students and teachers on the game's effectiveness. Students who tested the beta and final version of the game were asked to complete a survey on user satisfaction, which also allowed them to express any critical comment on the usability and content of *Sicuri si diventa*. In the course of different real-game events we also conducted direct observant participation to collect more data on gaming practices and team play. These results were then shared and discussed with the game developers in order to use our observations to improve the game's features according to the students' feedback.

The beta version of the game, which included only the agricultural sector, was tested in three schools with a total of 49 students: 6 out of 10 players expressed a «positive» evaluation of the «fun» side of the game and 8 out of 10 judged it «appropriate» and «useful for learning the principles of safety at the workplace». Some criticism was direct «repetitiveness» of the game, mostly associated to the presence of a single work environment, but also to the length of some of the text, which was later edited and made easier to read and absorb. 96% of interviewees were satisfied with the characterization of the junior health and safety manager, although some of the players reported that they found the role 'challenging'. However, most of them found that the game was useful to become more aware of risks at the workplace and to learn prevention rules. For example, comments reported that the most important takeaway for them had been «understanding that the first aid kit must always be available», or that «it is fundamental to use the correct personal protective equipment (PPE) at the right time», or «which PPE can protect from chemical risk». Other significant suggestions emerged from the survey include:

- Add the possibility to play off and on line;
- A wider set of choices for character customization;
- Make players even more autonomous in their choices;
- Include death or a «game over» scenario in the narrative.

Most of these suggestions were built into the game and allowed us to improve it. However, we deemed preferable to replace the possibility of the workers' death with injuries that are caused by mistakes in the use of PPE and that force characters to stop and lose work (and play) time in an infirmary.

The completed version of the game, which included all three work environments, was presented at a national health and safety expo in Bologna. *Sicuri si diventa* was tested by 75 students who had never been involved in the research and who were asked to fill in a survey similar to the one used for the beta version of the game. The results revealed an even higher level of player satisfaction among the students: while in the first group for the beta test only 46% considered the game «appropriate» and 31% defined it as «fun», 90% of the second group – who played the final version of the game – gave a positive answer to the question «Did you like playing with *Sicuri si diventa*». According to this second group of students, the game is especially useful for learning while having fun (94%) and for acquiring awareness regarding risks in the workplace (86%). It also helped the players remember some of the rules of health and safety (83%), in particular those concerning the uses of individual safety equipment, which play a key role in the game narrative (figs. 5-6).

FIG. 5. *Did you like playing with Sicuri si diventa? (%; N=75).*

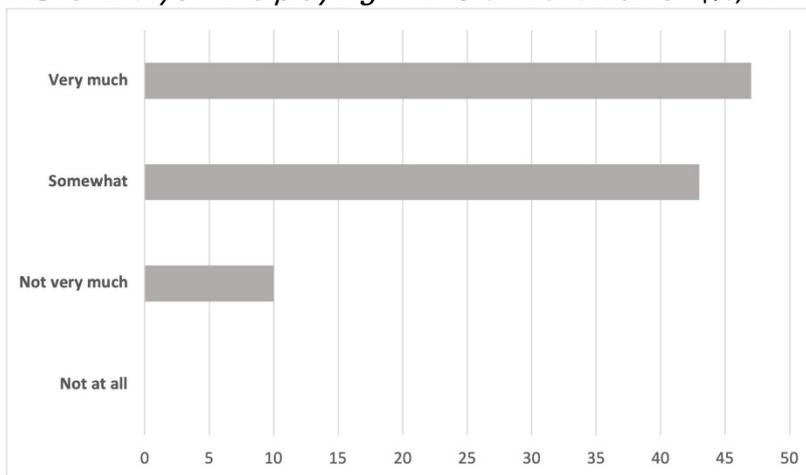
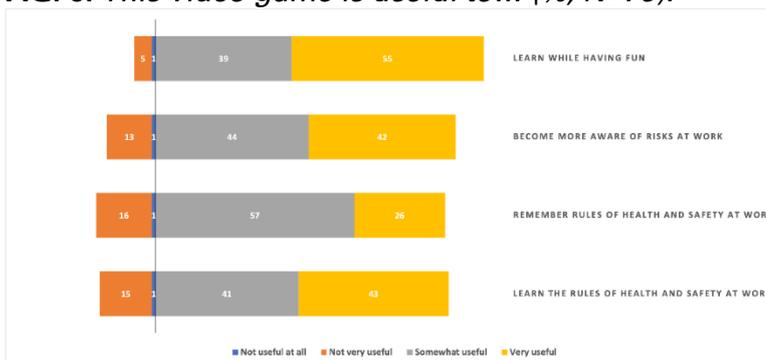


FIG. 6. *This video game is useful to... (%; N=75).*



Conclusion

Even within structured/formal education programs, video games and especially serious games can provide a chance to co-construct content and knowledge: players have the opportunity to experiment with irony, team-working, mutual encouragement or critique. While always remaining aware of the 'playful' nature of serious games, we can stimulate creativity and learning-by-doing through practices that are already familiar to young people. Games, as the corporate world has already discovered, are extremely helpful for the improvement and practice of transferable soft skills, so much so that after having been labeled as unproductive, they have been reclaimed as strategic tools to introduce the dimensions of affectivity and emotions in the workplace. Still, schools seem slow to catch on to this shift in perspective: while corporations invest money and resources in projects and training based on the idea of gamification, the school system, especially in Italy, has yet to become fully aware of the wide range of possible applications of video games for education.

Our research project was designed in this ambivalent context, where video games for young people are from time to time celebrated or condemned, aware that «like all technologies, video games can be good, bad, or indifferent: It all depends on how they are used » (Gee, 2014). From the perspective of our research framework, gaming and gamification as educational tools should neither be idealized, nor stigmatized as instruments born out of fleeting fashion and the entertainment market in the society of spectacle criticized by Débord (1967; Bassetti et al., 2017). The challenge posed by this project concerns, more than the effective learning of notions and rules facilitated by these digital tools, the idea of extending the opportunities to learn, e.g., to facilitate the construction of critical awareness about risks for health and occupational accidents, while accepting to agree about taking advantage from prevention. Therefore, we based our research on participatory methods aimed at co-creating a serious game, engaging all the different actors involved in education on occupational safety: students, teachers, health professionals, and technicians.

Our idea is that dialogue and interaction among these actors can help improve communication and therefore facilitate gaining the appropriate skills, since a preliminary sharing of perspectives is crucial to identify problems and their solutions. Even though so far, several studies found no significant differences in academic achievements by digital learning or even serious games, it is still meaningful that «significantly more positive attitudes toward serious game assisted learning were revealed compared with traditional paper-based learning» (Zhonggen, 2019), since they encourage active participation and team play.

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It's even more Complicated! The Influence of Media Practices in the Development of Adolescents' Identity

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ABSTRACT: *Social media have long been considered both a strong driver of peer-to-peer social relationships (Caron, Caronia, 2007) and an important ground for the constitution of participatory cultures that promote informal learning and opportunities for the construction and negotiation of one's identity path (Boyd, 2014; Ito et al., 2010; Jenkins et al., 2015). Particularly in the last decade, the infosphere (Floridi, 2017) has been traversed by a development that, while expected, has surprised in terms of rapidity and profound transformation of teenagers' online practices (Riva, 2012). The research, which involved 1657 students (14-19 y.o.) from ten secondary schools of different curricula in the metropolitan city of Bologna, intends to investigate, from an exploratory-phenomenological point of view, the influence that adolescent online practices (video-social platforms, gaming, etc.) have on the development and negotiation of their identity. Has the transversal and pervasive change generated by digital tools and environments affected the ways in which adolescents perceive themselves, negotiate their identity and their role in the peer group? What challenges and critical issues emerge for identity development from digital consumption? What emerges is a picture in which technologies are mediators of fundamental importance in the relationships of young adolescents; a situation that has been further emphasized by more than a year of health emergency with consequent lockdown and closure of schools. The figure of peers, even those known and frequented exclusively online, as well as that of influencers, play a very important role in the negotiation of the identity of young people and in the construction of their relational dynamics.*

KEYWORDS: *social media; media practices; adolescents; identity development.*

1. Theoretical preliminaries

The theoretical assumptions of this contribution are modulated according to three concentric circles. Starting from a macro-cultural perspective, we intend to focus more and more on the central question of the identity transformations of adolescents.

1.1 Infosphere and Network society

First, at the macro-cultural level, it affirms the central role in the contemporary world of digital devices. They are homeostatic artifacts, capable of communicative interaction and self-regulation through processes determined by internal algorithms (Rivoltella, Rossi, 2019, 26-28). The relationship between human beings and technology is therefore experiencing a new phase (Longo, 2006): it is no longer the exclusive world of humans, but it is a world inhabited by men and machines, interacting beings characterized by a symbiotic and interdependent relationship (Latour, 2005; Law, 2007). There is symbiosis because the machine cannot exist without man, and at the same time human life is almost totally conditioned by machines. Therefore the pervasiveness of digital devices makes their presence indispensable (CENSIS, 2018).

This is especially true for information machines, which collect, process, communicate and connect (Castells, 1996) a quantity of information regarding the exponentially growing human world (Lyman, Varian, 2003; Floridi, 2014). As Paul Valery wrote, this rare commodity – the information – will be prepared in malleable or edible forms, will be distributed to an increasingly numerous of people; it will become a thing of commerce, something that is exported, something that is imitated and reproduced almost everywhere (Longo, 1998). The passage of information from the functional-communicative level to the ontological level (Floridi, 2010, 10-15), which makes it the substratum of the phenomenal real, is happily expressed by the term *infosphere* (Floridi, 2002, 2014).

It designates the semantic space made up of the totality of information and agents – uniquely designated as informational entities – and their operations. ICTs, with numbering and binarization, make each one of us «informational matter», within a perennially interconnected reticular structure. We therefore speak of a *network society*, an expression that does not merely refer, trivially, to the diffusion and importance that computer networks have acquired in the contemporary social system. *Network society* rather designates a more general reticular paradigm in the interpretation of the morphology of society itself (Castells, 1996). In this case, therefore, the concept of «network» embraces much more than the internet, indicating a social model organization that tends to be horizontal, flexible, capable of adapting rapidly to changing environmental conditions with all the economic, symbolic and relational flows and exchanges.

1.2 Adolescents, social relationships and digital culture

If the network society represents the widespread paradigm to interpret the dimension of contemporary social systems, it is necessary verify it by observing the daily experiences in the lives of individuals. With this contribution – entering a more specific level, the second theoretical circle – we intend to investigate the relationship between teenagers and social media. In the second decade of 2000 this relationship became unavoidable.

Through the smartphone, which has become the main device for accessing the internet by pre-adolescents and adolescents in many industrialized countries (Mascheroni, Olafsson, 2016), a horizon of media practices has opened up which was previously confined to television consumption, telephone conversations or via chat / forum, and face-to-face meetings. The convergence operated by the smartphone in terms of multi-modal multimedia has contracted the times of relationships, languages and forms of socialization (Jenkins, 2008).

For this reason, international scholars agree in delineating that Social media have long been considered both a strong driver of peer-to-peer social relationships (Caron, Caronia, 2007) and an important ground for the constitution of participatory cultures that promote informal learning and opportunities for the construction and negotiation of one's identity path (Boyd, 2014; Jenkins, Ito, 2015; Ito et al., 2019). In Italy this trend has manifested itself from 2010 onwards with the consequence of sparking a debate about the dangers that young people are exposed to by using smartphones and other technologies. This debate has been followed by a reflection about the impacts that these devices can have on the development of adolescents. An increasingly unavoidable controversy, given that currently almost 99% of Italian teenagers owns a smartphone and with it can enter the world of the infosphere (Gui et al., 2021).

The debate was amplified by academic contributions that reached a wide audience: Sherry Turkle's two books (2011, 2015) described the loneliness of hyper-connected young people; Manfred Spitzer showed the neuropsychological risks of life online (Spitzer, 2012). *iGen* by Jean Twenge instead read the data on the decrease in the well-being of adolescents in relation to the arrival of digital media (Twenge, 2017).

1.3 Media practices of adolescents: a Media education analysis

Compared to these critical reflections, the pedagogical literature, grafted onto Media Education, has highlighted the cognitive and relational opportunities favored by smartphones and their use by adolescents. Instead of the danger of the instrument itself, we should focus on the way in which these devices are managed on a personal, school and family level (Pachler et al., 2010; Boyd, 2014; Bachmair, 2015; Rivoltella, Rossi, 2019).

To do this, we need to go into the third circle, the more specific, taking on the task of carrying out an analysis of the ways in which adolescents use ICT and verifying the media practices they activate in the context of the reticular society. This is because, as an essential part of Media research, the consumption analysis is a theoretical and methodological component of research in Media Education. In fact, it allows the identification of the real recipient of certain consumptions and it generates possible forms of self-reflexivity, thus acquiring greater awareness on media consumption practices (Aroldi, 2019). It is difficult to understand how the needs of a generation can be identified, hoping to answer them without knowing which media that particular target uses. In

other words, dealing with adolescents means knowing and sharing the social places, the profiles of the sub-cultures and the media environments that are experienced by them (Rivoltella, 2020).

If the phenomenon of technological mediation has been largely investigated for childhood, especially when considering the cognitive impacts on learning dynamics, local and specific studies on relational dynamics in adolescence are few (Bissaca et al., 2021). Therefore, there is a need to analyze the ways in which young users of digital technologies stage themselves as a function of a multifaceted and plural social paradigm and of the opportunities offered by the communicative environment generated by ICTs.

We will therefore analyze the media consumption and the networks of relationships that the high schools students activate in the horizon of reticular individualism. In other words, what kind of media interactions can be observed? Is it actually true that more and more often we choose the networks we belong to (networks of friends, colleagues, fans of particular themes or sports)? What effect do the so-called publics have in the structuring of identity?

1.4 Philosophy of education assumptions

Within this analysis that we intend to make, the philosophical-educational assumptions that fall within the theoretical framework now presented are essentially two:

1. If the human being is an emerging phenomenon of interacting subjects, ICT must also be included in the category of interacting subjects, which are devices that at the same time capture and develop forces and energies by promoting interactions, multiple connections and assemblies (Braidotti, 2014). In this sense, speaking of human identity can no longer evade the reference to the dimension of *techne*, actualized in digital devices and in the computerization of existence, as an inter-agent subject and which generates relational spaces and identity remediation.
2. If identity does not constitute an original *datum* that is the fruit of self-determination of the ego, but the result of the incessant dialectic between self and other, this constitutively implies the recognition of otherness. Knowing oneself means recognizing oneself through the mediation of otherness, in the different ways in which it manifests itself (the you, the historical context of belonging, the language, the institutions), and getting through a phase of being extraneous to oneself (Ricoeur, 1991). In today's context, inhabited by the pervasiveness of ICTs, identity cannot be separated from recognizing digital technologies and the consumption they activate as otherness. ICTs must therefore be understood in the dual sense of narrative devices (which allow the propagation of self narratives in the network) and social mirrors (which return

feedback on oneself thanks to the largely dominant social functions in this age of the Internet) (Balbi, Magaouda, 2018). On this front, the effects that this relationship can generate on the forms of identity construction of adolescents are all to be studied.

2. The research

2.1 Objectives and research questions

The research aims at investigating, from an explicative-phenomenological point of view, the influence that adolescents' online practices, especially those related to social networks, online video-streaming platforms and video gaming, have on the development and negotiation of their identity.

To investigate this dimension, the researchers identified two main research questions: what are the media practices of nowadays' adolescents? In which terms adolescents' online media-practices have an impact on the way they socialise and negotiate their identity?

2.2 Methodology

The hereby presented research can be considered as an explanatory study conducted by following a phenomenological research approach. Seen the complexity of the phenomenon addressed the researchers opted to adopt a mixed method approach (Creswell, 2015) by following an explanatory-sequential strategy of inquiry (Trincherò, Robasto, 2019). The phases of the research consisted in two main moments: in a first moment, a quantitative study devoted to collect – by the mean of an online survey – the general situation from the students and, in a second moment, a qualitative study – structured as a series of online focus groups – aimed to deeply understand the results of the quantitative phase.

The research was conducted in 9 upper secondary school located in the area of the Metropolitan City of Bologna.

The online survey (1657 collected, 15 minutes to complete on average) was structured in four parts: general information, online practices and consumers' habits, relationship's dynamics connected to the media practices and impacts of media practices on identity. Five online focus group (average duration: 1 hour) took place with a group of 8-12 volunteer students grouped by school year; the semi-structured backbone of questions that guided the focus groups aimed to deeper explore the results of the questionnaires.

In the present contribution we present some of the data emerged from a preliminary analysis. More specifically we will tackle the first three parts of the survey and some of the most relevant parts of the focus groups. The research, particularly the data analysis, is still a work in progress.

TAB. 1. *The numbers of the research¹*

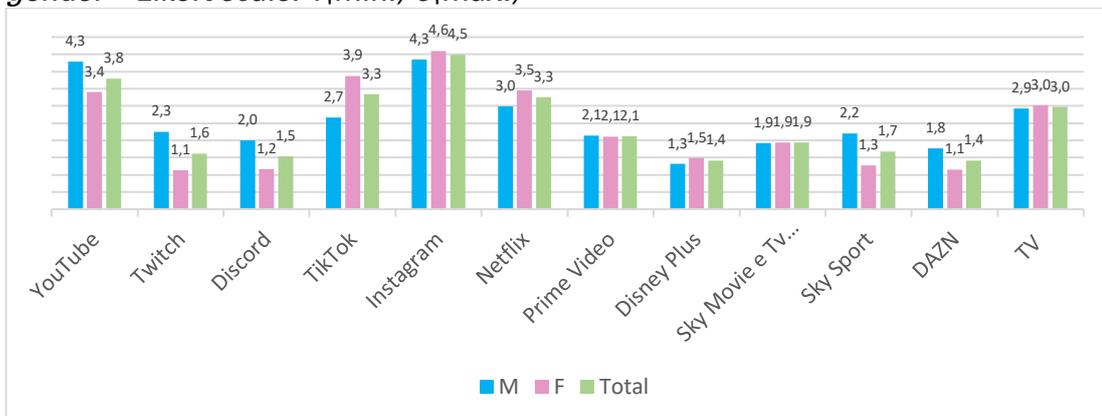
	<i>N</i>		<i>N</i>		<i>N</i>		<i>N</i>
Schools	9	School #1	133	First year	327	Males	707
Classes	88	School #2	377	Second year	336	Females	930
Surveys collected	1657	School #3	30	Third year	323	Empty	15
Focus groups recorded	5	School #4	214	Fourth year	313	Other	5
		School #5	109	Fifth year	358		
		School #6	146				
		School #7	128				
		School #8	121				
		School #9	399				

3. Data analysis

3.1. Adolescents' online practices and consumers' habits

In the following graphics are shown the adolescents' practices related to different entertainment platforms per gender (Fig. 1) and per school year (Fig. 2). The most preferred platforms are Instagram (Likert value: 4,5), YouTube (3,8), TikTok (3,3), Netflix (3,3) and traditional TV (3,0). By carefully observing the first graph (FIG. 1) it can be remarked that YouTube, Twitch and Discord (platforms more related to video gaming) and SkySport and DAZN (platforms more related to sports) are considered more appealing by males; on the other hand, TikTok, Instagram (platforms more related to the world of other adolescents, and to influencers) are more appreciated by females.

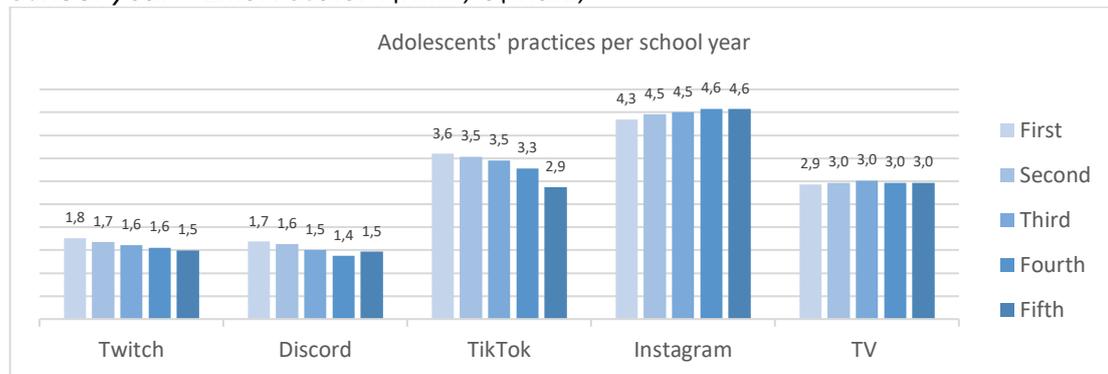
FIG. 1. *Adolescents' practices related to different entertainment platforms per gender – Likert scale: 1(min.)-5(max.)*



¹ Upper secondary school in Italy lasts 5 years, from 14 to 19 years old, corresponding to ISCED 2011 level 3, high school.

If one observes the data about adolescent's media practices organised per school year (Fig. 3) it becomes evident that TikTok is more appreciated by younger students: the Likert value for first year's students is 3,6 and it lowers until it reaches the 2,9 of the fifth year's students (the same trend, with less intensity, can be observed also for the levels of appreciation of Twitch and Discord). With Instagram the situation is reversed: the lowest value is in first year's students (4,3) and raises until it reaches the fourth and the fifth year's students (4,6).

FIG. 2. *Adolescents' practices related to different entertainment platforms per school year – Likert scale: 1(min.)-5(max.)*



These numbers may be interpreted as the manifestation of a general trend, recognisable especially among younger students, to prefer TikTok over Instagram. This tendency is supported by the focus groups but also by marketing researches which show a continuous growth of TikTok² and which foresee that it will become more and more popular as youngster will tend to prefer the Chinese platform over the American one.

From the focus groups the researchers registered also the following considerations:

- TikTok is perceived as a platform where students feel free to express themselves and where it is possible to receive endless entertainment but also occasions for learning about interesting matters;
- students refuse to use Facebook, which is considered the social media of their parents and they do not want to expose themselves there.

The differences in the preferences according to the gender become more visible by looking at students' answers to the question «How much I appreciate the following contents» (Fig. 3).

² Retrieved from: <https://digitalagencynetwork.com/tiktok-vs-instagram-who-is-winning-at-social-media/> (Last access: 12/07/2021)

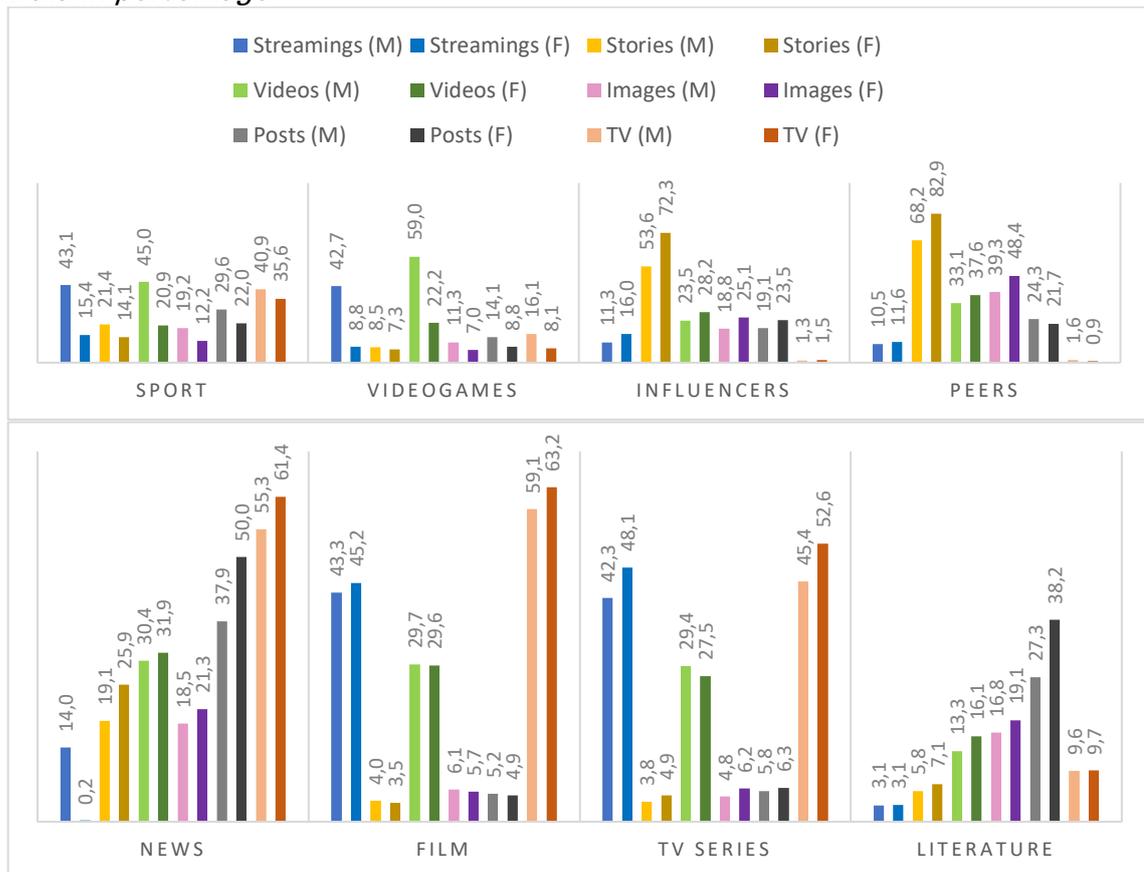
FIG. 3. Adolescents' answers to the question «How much I appreciate the following contents» – Likert scale: 1(min.)-5(max.)



Sports (M:3,6 – F:2,4) and videogames (M:3,6 – F:1,8) are definitely more appreciated by males rather than females; narrative contents like movies (M:3,7 – F: 4,1) and TV series (M:3,5 – F:4,2) are more appreciated by females; social-relational elements like contents form influencers (M:2,2 – F:2,5) and peers (M:3,2 – F:3,5) are, once again, more appreciated by females.

In the graphic printed in Fig. 4, are represented more details concerning the preferred platforms for different kinds of contents.

FIG. 4. Adolescents' practices to different entertainment contents per gender – Data in percentage



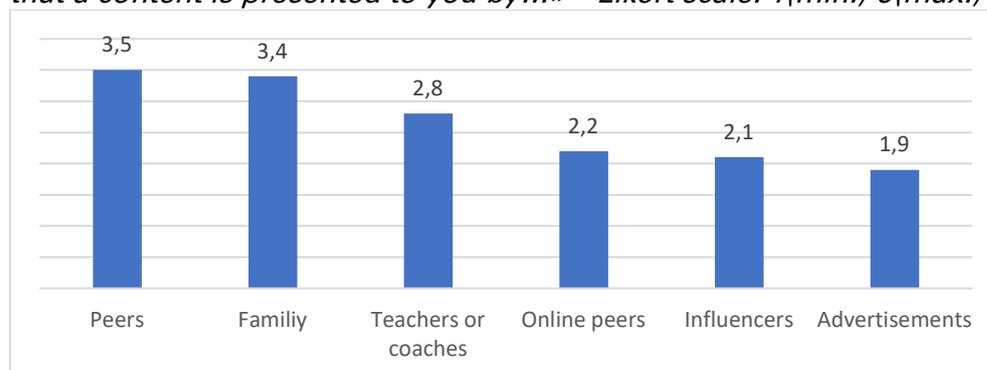
We would like to underline three considerations:

- Video-streaming platforms are more used for sports contents, video games (in these cases, especially by males) movies and tv series;
- Stories and reels are the preferred channels to benefit from influencers and friends' contents (and in these cases, we have a confirmation of the females preferences of these kinds of contents). About this, during the focus groups, students reported that, despite they are aware of being «somehow addicted» by social medias, they often do feel «captured by the social media's stream of contents» as they are somehow feared «of missing out contents»;
- Classic TV is still one of the most preferred platforms (with a balance of gender) to watch contents like news, movies and TV series.

3.2. Relationship's dynamics connected to the media practices

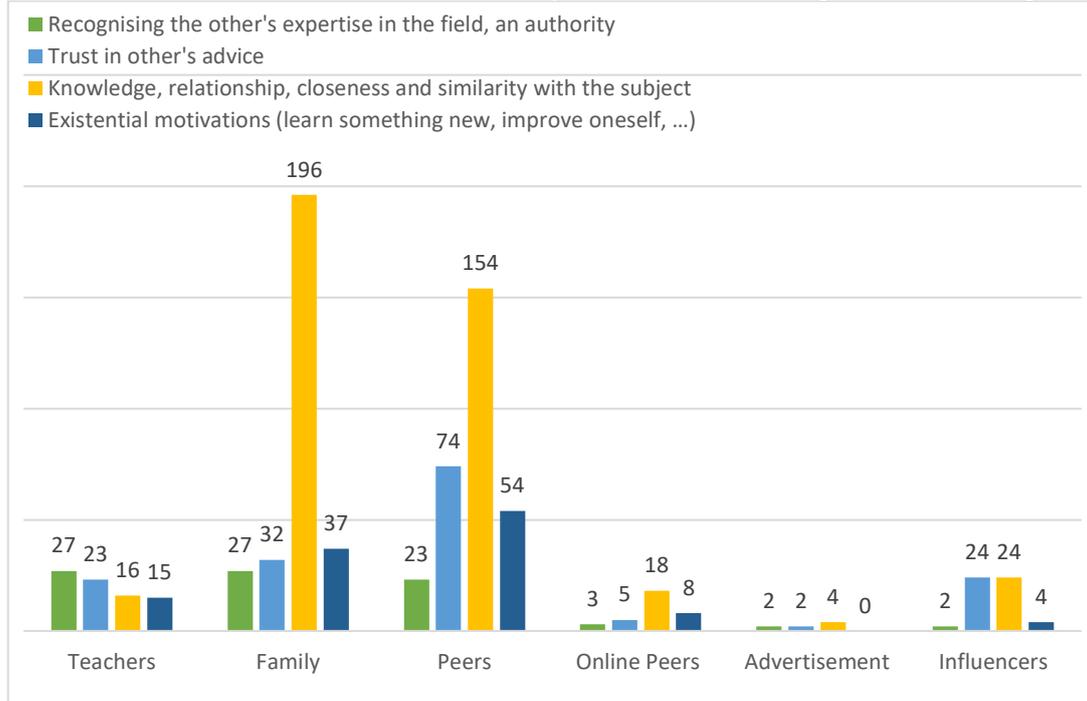
By analysing the answers to the question «How much is important for you that a content is presented to you by...» (FIG. 5) it is clear that the kinds of people more considered and listened are the closer ones: peers (Likert: 3,7), family members (Likert: 3,4) and teachers or coaches (Likert: 2,8).

FIG. 5. Adolescents' answers to the question «How much is important for you that a content is presented to you by...» – Likert scale: 1(min.)-5(max.)



More insights about these dynamics can be found in FIG. 6 where are schematised students' motivations to the previous question: while teachers are considered more because of their authority and expertise in fields that are recognized as useful, family members and peers are considered more because of a direct contact. These categories of people are those with whom the students share a more direct relationship: they know them personally and have with them strong and long relationships which is also accompanied by a sense of trust.

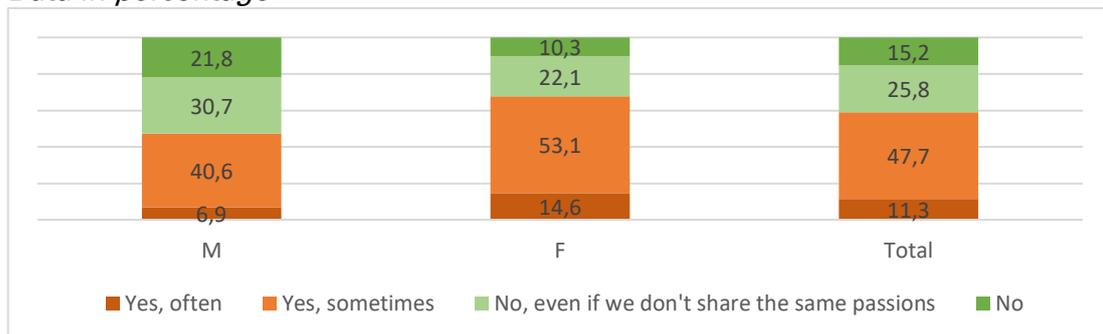
FIG. 6. Adolescents' motivations to the question in FIG. 5 organised in categories



It is interesting to remark the fact that, among the motivations that students provided for listening and considering influencers' advices, one can find «trust» and «closeness of relationship/similarity with them» with the same value (N=24). From both the surveys and the interviews it did emerge a strong sense of trust and closeness not only with their friends, but also with social media's influencers: in other words, influencers are considered as persons who can be trusted and with whom students have a sense of close relationship. This can be explained with the presence of a para social relationship dynamic (Horton, Wohl, 1956).

In FIG. 6 are represented the answers to the question «Have you ever felt excluded from a group because you didn't know what media content they were looking at?»: by taking a closer look at it, it is possible to note that the number of students that answered positively («yes, often» and «yes, sometimes», 59%) is impressive, especially among female students (67,7%) over the males (47,5%).

FIG. 6. Adolescents' answers to the question «Have you ever felt excluded from a group because you didn't know what media content they were looking at?» – Data in percentage



The five focus groups conducted with the students offered insights about the motivations behind these answers. The presence of such a number of students who feel excluded can be explained by the simultaneous presence of different peers sub-groups. Thanks to social media, these groups are in constant contact: this contribute to create, among the students, seamless streams of communication exchanges which produce, on one hand, a strong sense of belonging and friendship but, on the other hand, also dynamics of exclusion between peers.

Three possible categorisations came up from the interviews:

- students who are shy and not too much part of social life of the class: these boys and girls do not share the same media practices of the majority of their peers and tent to have their niches where they feel listened, appreciated and comfortable;
- students feeling excluded by given conversation topics and believing that they need to «catch up» in order to participate to the group: these category of boys and girls expressed the need for being up-to-date about the latest development of social/entertainment media to better be a part of their peers;
- students trusting their friends but feeling sometimes excluded by certain topics: these young boys and girls know that having different interests is enriching and this is not representing too much of a problem for them.

4. Conclusions

What emerges in this research is a picture in which technologies are mediators of fundamental importance in the relationships of young adolescents: the daily and constant use of ICTs in their lives is recognized as a possible source of addiction but also as an indispensable tool to communicate, connect and learn. If technologies are a right that cannot be renounced, the last year of health emergency due to COVID-19 directly has showed the benefits and the risks of the use of media in adolescents' time: this situation of lockdown and schools' closure forced young people to mediate most of their relationships only through digital devices and made them aware of opportunities and threats. Lockdown and the consequent massive use of ICTs was also a possibility to explore more content and to experiment new media practices, like the use of Clubhouse, Discord, Houseparty to listen and converse with others' voices and for their personal narrations.

Very few teenagers use «actively» social medias (in the sense of being content creators), but they perceive their friends who do it in a positive way: «they are normal people expressing themselves»; «he do have a talent, I don't see why mocking him»; «if I were talented in something, I would do it!».

Media practices play an important role in the way adolescents behave, interact, and act with their peers. In particular, the figure of peers, even

those known and frequented exclusively online, as well as that of influencers, contribute to the shape and negotiation of the identity of young people and to the construction of their relational dynamics. These peers and influencers might be very different one from another according to adolescents' interests and curiosities; music, fashion, videogames, street art, movies and tv series, news are the contents they follow and media experiences can be varied and multiform, suggesting the heterogeneity of practices. This variety might be the key to give voice and engage young people as active citizens in schools, communities and society: if we, adults, are able to listen to them and valorize their thoughts and competencies, to consider the time they spend online as an essential aspect of their lives and a right to express themselves, we could support them in better understanding these practices and reflect on them. «The relationship with the other and with his representations are fundamental aspects for building a satisfactory self-image, capable not only of serving as a presentation but also of being a fundamental point of reference in the process of identification and self-affirmation in which young people are engaged» (Bissaca et al., 2021, 12). As adolescents said during one of the focus group, there is always something to learn from our peers, if we give them space and time to express and confront without judging them.

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**Learning Digital Creativity
in Formal and Informal Environments
Challenges and Opportunities for Education**

Surviving the Ph.D.: The Use of Memetic Creativity in Informal Networks

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ABSTRACT: *Despite the general understanding of a Ph.D. being a yellow brick road to an academic career, the actual life of a Ph.D. student ends up, in many cases, being a struggle for survival between the sense of loneliness and the constant feeling of uncertainty about the future. To put up a united front and to share failures and successes about their Ph.D., students seem to have adopted a connective strategy by using the memetic language to build online communities in which to find support among peers. Memes, thanks to their engaging affordances and the ability to encourage individual participation, allow Ph.D. students to express themselves using vernacular creativity and to connect their everyday experiences in a collective knowledge. Using as a case study the Facebook page «High Impact Ph.D. Memes», this work investigates the use of memes in the narration of the Ph.D. and how these digital artifacts contribute to creating online communities where peers can share their experience and learn from each other how to «survive» the Ph.D. The conclusion of this work argues that memes, used as a form of digital creativity, can foster individual participation and transform it into a connective action to create networks of peers that share common values and understandings using the memification of their everyday experience.*

KEYWORDS: *Meme, Facebook, Connective Action, Ph.D., polyvocality.*

Introduction

«I was so happy, and then the paper's reviews came back», «Are you familiar with Maleficent? Yes, she's my supervisor», «There is no more coffee in the house, it must be deadline time».

The publish or perish imperative, the relationship with the Ph.D. Supervisor or the overwhelming feeling of a deadline are just some of the major stumbling blocks that a Ph.D. student must deal with. It is said that «misery loves company» but due to the high mobility and the individualistic structure of the doctorate, that fosters the competition and the work alone, many times it is hard for Ph.D. students to find a stable group of peers to process with these intimate or stigmatized aspects of their experiences.

The informal online communities of Ph.D. students seem to be a collective response – although partial and unstructured – to these needs, constituting safe places in which to find support, exchange opinions or simply share the difficulties inherent to the long process of writing the dissertation.

Within these digital groups, the narration of the constitutive aspects of one's experience is often told with the use of memes: transmedia symbolic forms that use individual experience and, tapping into shared popular culture and practices, generate a collective knowledge within the online spaces that they are created in (Shifman, 2014).

Memes, through the practices of produsage (Bruns, 2008) and vernacular creativity (Burgess, 2006), stimulate a participatory process that acts on two levels (Bennett, Segerberg, 2013): an individual level, in which each student can share their personal and intimate point of view concerning the doctorate, abandoning the academic logic of a self-representation that requires being always impeccable and self-sufficient; and a connective level, in which the ability of memes to trigger the reactions of alike users allow them to build ad hoc communities in which members can discuss even the «dark side» of the Ph.D., such as the impact of the program on the psychophysical and social health of doctoral candidates, the high workloads, or the uncertainty about the future.

The work will be organized as follows. The first section explores the use of memes to foster creative practices and encourage grassroots participation. Then the memetic framework is applied to the doctoral experience to analyse how Ph.D. students use memes to discuss their path and to connect with each other. Following, using as a case study the Facebook page «High Impact Ph.D. Memes», it is investigated how digital creativity contribute to shaping online networks of doctoral students

Results show how the memification of the Ph.D. experience fosters forms of digital creativity that promote participation and encourage the creation of a public discussion where peers can share through humorous content their own experience and learn in an informal environment the best practices on how to «survive» the Ph.D.

1. Memes as a creative practice

Among the cultural artifacts that in recent years have been colonizing social media practices, changing the landscape of pop communication, are memes.

In Shifman's words memes are «units of popular culture that are circulated, imitated, and transformed by individual Internet users, creating a shared cultural experience in the process» (2013, 367).

Participatory social media networks have fostered the spread of these cultural artifacts thanks to platforms' affordances that have made easily available tools and features to all internet users so they can effortlessly

edit and remix contents and, doing so, take part in the memetic experience.

The transformative characteristic of these artifacts is, in fact, pivotal to the collaborative aspect of meme's culture since each time a user contributes to the memetic flow with their own variation of a meme, all of the new and old references that they uses funnel into a collective knowledge that becomes a common background fundamental for the correct interpretation of that meme's family (Segev et al., 2015).

The structure of memes is particularly suitable for this purpose because memes are complex and multimodal objects (Yus, 2019) made of layers and each layer contains multiple elements, languages, and symbols that are remixed together uniquely. The decoding of a meme can therefore allow different readings depending on the individual knowledge of the consumer and their ability to decipher all layers, distinguishing between those who can access full decoding and those who will have difficulty in reading correctly the various levels of meaning of these digital artifacts (Knobel, Lankshear, 2007).

In this sense, memes play an important role in the dissemination of shared values within contemporary digital cultures (Shifman, 2014) because they favour the formation of affinity groups within which the process of attribution of meaning takes place, transforming individual creativity into a collective experience.

The transformative and the community building features that characterize memes place these artifacts in the broader frame of vernacular creativity.

Just like vernacular creative practices, that «emerge in highly particular and non-elite social contexts and communicative conventions» (Burgess, 2006, 206), memes grow, in fact, within groups of internet users that use memes to connect with each other's everyday experience remixing elements from popular culture (filmography, literature, public figures, etc.), folk practices (storytelling, scrapbooking, etc.), and contemporary media practices with their personal narrative and life experience.

Being actively part of remix culture (Lessig, 2008), memes are even more enabled within online communities by the logics of produsage (Bruns, 2008) that determine a hybrid mode of consuming where users not only participate and interact with the content published in their online spaces, but they also actively contribute to their realization proposing memetic remixes and variants with the support of peers and administrators of those spaces.

2. Meming the Ph.D.

Being the last degree of instruction, Ph.D. is considered to be the entry point to academia: three years of paid studies that route the young scholars to their career in the university or, in general, research.

But as fascinating and rich of opportunities this program can be, there is also a dark side of it; an obscure side made of organizational and systemic problems inherent in the structure of the Ph.D.

In Italy, as well as in many European countries, most of the Ph.D. students have a contract with the university that provides, for a monthly salary, a series of training and research obligations. This economic transaction makes Ph.D. student a hybrid figure between a student, still in training, and a young employed researcher; a liminal situation that often leads to uncertainty in terms of skills, expectations, and safeguards for those who undertake this type of path (Passaretta et al., 2019).

Another aspect that makes it hard to deal with the Ph.D. experience consists in the individual path that each student has to manage, alongside their institutional one, to build a solid curriculum with advanced courses, participation in conferences, and publication attempts, according to the well-known publish or perish formula. A personal commitment, often not formalized, inserted in a highly hierarchical academic structure that imposes high standards of scientific production in the face of low decision-making power and often limited possibility of managing one's time, exposing Ph.Ds. to a high risk of work-related stress (De Lange et al., 2004).

High demands, low recognition, and uncertainty about the future create a deadly mix that has repercussions on psychological and mental health. Recent studies confirm how Ph.D. students are highly affected by depression, burnout, and anxiety (Levecque et al., 2017; Woolston, 2019) and how structural elements like high mobility (Woolston, 2019, 404) and the shortage of cooperative work (Cantor, 2020) make harder for Ph.D. to create a network of peers in their local environment.

In the absence of a close and stable support community, social media has become a widespread aggregation channel that allows Ph.D. students around the world to connect with each other, sharing the lights and shadows of their daily experiences.

In these online spaces, the life of the Ph.D. students is often represented with an ironic lens through the production and sharing of images, photomontages, and comics that talk about the conflictual relationship with the evil supervisor, the unimaginable difficulties of writing the thesis, or the paralyzing impostor syndrome that catches each Ph.D. student every time they have to present a paper or have a confrontation with their colleagues.

Memes represent the perfect tool to express these feelings and to connect with each other. Through memetic language, Facebook pages, Twitter accounts, or Instagram profiles can build compact communities in which contextual references are linked to the doctoral experience, narrated according to a discursive modality typical of counterpublics (Warner, 2002), in which the construction of the frame of meaning is based on a shared experience – in this case the doctorate – which allows full understanding and empathy towards the situations and circumstances object of the discourse.

In this way, for example, one meme (Fig. 1) manages to remix a scene of *The Lion King* with the experience of the Ph.D. student with publishing their manuscript.

FIG. 1. *Predatory Journals meme*



Source: High Impact Ph.D. Memes Facebook Page

The meme is, in fact, built with different levels of meaning that only those inside the academia can fully understand: Zazu, the hornbill, represent the advisor trying to protect the manuscript of the Ph.D., embodied by the little lion, from the evil hyenas incarnating the predatory journals. Predatory publishing is an exploitative business model that charges authors with publication fees without any guarantee of quality or legitimate academics standards, a well-known problem in the academic system that many young researchers find out at their own expense and that, in this meme, the advisor is trying to protect the student from.

Using a juxtaposition between the *Lion King*'s characters and the everyday life of Ph.D., the memes can create multi-layered objects that both share a common experience exposing a problem and giving a message of awareness as well as giving a possible solution between the lines: rely on your advisor.

The online presence of doctoral students, therefore, is characterized as connected publics, being groups where the social, cultural, and technological knowledge is developed through digital media (Ito, 2008) and in which the digitally mediated experience defines the characteristics of use and consumption they adopt.

The online dimension has also the merit of overcoming the limits of synchronic and co-present communication typical of the offline communities. The interaction within the online pages allows participation detached from the place or time of consumption, getting around the difficulties deriving from the high rate of individual mobility of Ph.D. students and from the unconventional working times, often decisive for establishing social relationships offline.

The humorous key that characterizes memes not only makes these digital objects particularly predisposed to viralization, as a form of «light» participation (Shifman, 2014), but also plays a central role in encouraging the sharing of more personal and intimate aspects of one personal

experience (Grundlingh, 2018) and controversial or emotionally stressful aspects linked, in this case, to the Ph.D. path.

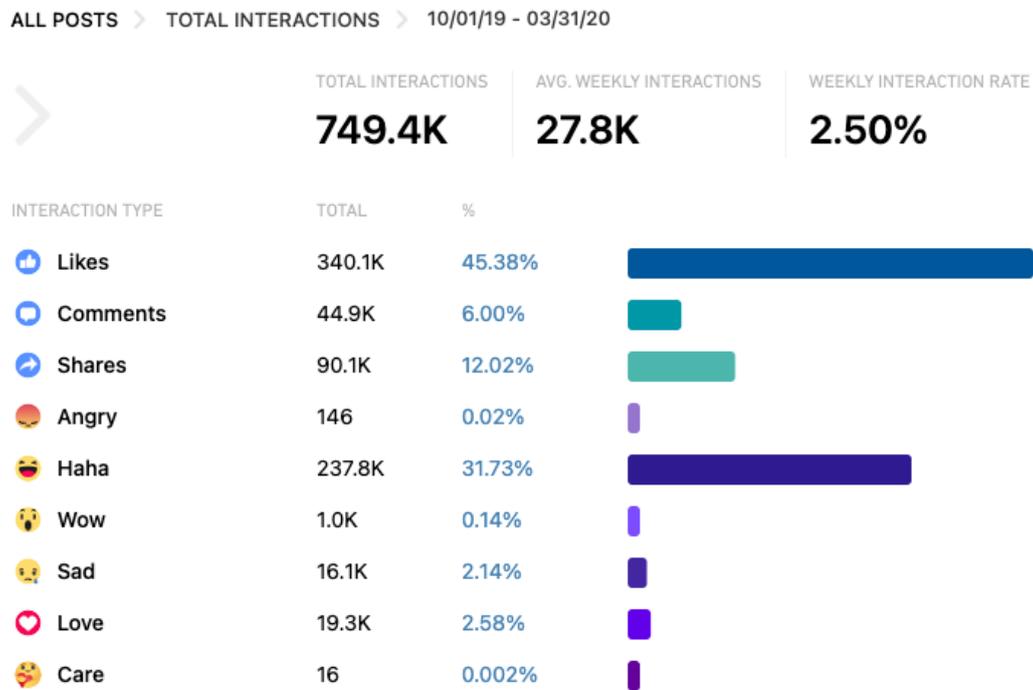
The most applied humour technique in these pages is the self-deprecating type, frequently used in memes culture (Deller, Tilton, 2015; Dobson, 2015; Kanai, 2015; Szablewicz, 2014) with the aims to relate personal and emotional affinities and to share the seeming impossibility of winning an oppressive system (Kanai, 2016).

Memify situations of pain and discomfort allow, therefore, to highlight the shadows of the doctorate by focusing on aspects that, as evidenced by the scarcity of specific studies, are not on the agenda and are often underestimated. A search for emotional communion in which to identify oneself as losers allows that «alternative desires and forms of mobility may be imagined and enacted» (Szablewicz, 2014, 260).

3. The case of High Impact Ph.D. Memes

Numerous pages, accounts, and groups entirely dedicated to sharing content relating to the Ph.D. program and the struggle of academic life clearly show the connective function of memes. Among these, the Facebook page «High Impact Ph.D. memes» represents an interesting case study to analyse the role of memes in the construction of these types of communities online, both because it is specifically addressed to Ph.D. and also because it is designed to involve an international audience, thanks to the use of the English language. The page, created in August 2018, currently has around 242.800 followers and produces an average of over one post per day, largely based on what users propose for publication in the private Facebook group «High impact memes for Ph.D. fiends». In the page description, the creators declare that they have thought of a space dedicated to relieving the stress related to the Ph.D. path through the sharing of memes based on real experiences, lived by the Ph.D. graduates: «Meming away Ph.D. stress. Only ORIGINAL memes inspired by Real-Life Events». A memetic production that translates into a series of original memes, often based on the reinterpretation of meme-macros adapted to the academic world.

The centrality of the page in the Facebook communication ecosystem is confirmed not only by having a high number of followers but also by the remarkable average of interactions (Fig. 2), more than 27.8K between likes, reactions, and comments per post per week, that each post receives. Posts have peaks of over ten thousand reactions for some contents on the subject of writing the doctoral thesis, usually portrayed as an alienating mission doomed to failure, or on the ironic and radical option of leaving behind the academia for living in the woods.

FIG. 2. *High Impact Ph.D. memes Facebook page's stats*

Source: CrowdTangle

The objective of the analysis, with respect to the community identified by this page, is therefore twofold: firstly, to shed light on which way the Ph.D. students use creativity to «be themselves together» (Shifman, 2014, 34) and which are the main topics they discuss and, secondly, to understand how much involvement and reactions these themes generate in the connected audiences of doctoral students.

To answer these research questions concerning the two dimensions of analysis identified, – (i) themes and (ii) activation of the public – it was decided to proceed with an analysis of the content of the memes published during 6 months, from 1 October 2019 to 31 March 2020, for a total of 243 posts.

Following the approach that Ask and Abidin (2018) used to analyse the problems of student life narrated through the use of memes it was decided to first apply an inductive approach based on the method of Grounded Theory (Glaser, Strauss, 2017) to identify the topics, followed by standardized content analysis.

The process took place in three phases: in the first phase all the posts were subjected to an open coding, aimed at identifying the core themes present in the meme; in the second phase, the thematic groups were aggregated based on the criteria of completeness, uniqueness and mutual exclusivity in order to bring out the main topics; in the third phase, the topics thus identified were used by two trained coders as parameters in content analysis to detect the presence/absence of each theme in each meme.

For the analysis of the engagement, Facebook metadata (reactions, shares, and comments) was downloaded using CrowdTangle (2021).

The analysis resulted in 8 main topics (Table 1): four of them (Publish, Health, Versus, Supervisor) were considerably more frequent while the other four (Future, Sociality, Expectations, Colleagues) were less present but equally engaging.

TAB. 1. *Topics and description*

<i>Topic</i>	<i>Frequencies</i>	<i>Description</i>
publish	98	Memes about the difficulties of publishing, the figures that are an obstacle in this process (e.g., Reviewer), the feelings related to productivity (e.g., difficulty in concentrating, deadlines not respected), and the publication processes (e.g., rejection, abstract proposal, etc.).
health	75	Memes that include references to Ph.D.'s physical and mental health. In particular, the effects that the Ph.D. has on the physical (e.g., sleep disorders, diet changes, etc.) and the emotional costs and disorders that provoke (e.g., stress, anxiety, impostor syndrome).
versus	75	Memes that frame situations where there is a clear distinction between Ph.D. students and the rest of the world (e.g., everyone does X but you are a Ph.D. so you can't/don't know how to do X) and that generate isolation or misunderstanding.
supervisor	71	Memes about the supervisor and their role in the Ph.D. student's success or failure.
future	32	Memes that describe the aspects related to uncertainty for the near future (e.g., economic uncertainty) and after the end of the doctorate (e.g., postdoc, academic career, etc.).
sociality	31	Memes that refer to the social costs of the Ph.D. in terms of changes in the ways of relating with people outside the Ph.D. (relationships, family, etc.).
expectations	30	Memes containing references to the expectations that are created before and during the Ph.D. about the Ph.D. experience itself (e.g., what I think the Ph.D. will be, the naivety with which the Ph.D. path is undertaken, etc.).
colleagues	28	Memes about all the aspects related to the relationship with academic colleagues and doctoral colleagues. Among these: the relationship with the newbies or with the older ones and the emotions related to shared work (e.g., competition).

As far as the engagement, the results showed high levels of engagement with an average of more than 3000 actions (likes, comments, shares) for each post.

The analysis of Facebook engagement can be considered as an indicator of the stimulus for users to take an action among commenting, sharing, or expressing a reaction (like, love, haha, wow, sorry, anger) and can be used as a proxy to understand which memes present the most

engaging content (Guenther et al., 2020). This observation can therefore highlight which topic has the most influence on activating audiences through participatory actions (Bennett, Segerberg, 2013).

As table 2 shows, the most engaging topic was found to be «Expectations» being the most commented, reacted, and shared topic with an average of 3013 reactions, 512 shares, and 134 comments. The high involvement in this topic indicates how the concern about one's future work, inside and outside the academy, after the end of the Ph.D. is a relatable and strongly felt issue.

On the contrary, among the topics that seem to be less appealing to Ph.D. students, is the «Supervisor» topic that, with an average of 2056 reactions, 83 comments, and 252 shares, is the least engaging. A possible explanation about this outcome could be found in the specific structure of the platform; Facebook is in fact a social network that requires users to interact with their real name, a characteristic that could result in inhibition on engaging with «compromising» contents. The significantly lower levels of share and comments, the actions more that have more visibility in the platform, seem to support this hypothesis of users being concerned about publicly engaging to content that, most of the time, criticize their tutor.

TAB. 2. *Topics and engagement*

<i>Topic</i>	<i>Frequencies</i>	<i>Average Engagement</i>	<i>Average Comments</i>	<i>Average Shares</i>	<i>Average Reactions</i>
publish	98	2960	109	390	2462
health	75	3275	124	439	2712
versus	75	3346	132	421	2793
supervisor	71	2391	83	252	2056
future	32	3394	113	435	2847
sociality	31	2912	111	311	2490
expectations	30	3660	134	512	3013
colleagues	28	2856	129	344	2384
total	440	3023	114	371	2538

Source: CrowdTangle

Although the interpretation of Facebook's reactions is still a complex matter and has been mostly investigated in political communication (Eberl et al., 2020; Martella, Bracciale, 2021), some assumptions can also be made by looking at the average reactions produced by posts (Table 3).

The category that engages most positively is the Versus, being the one with the most *love* reactions that are associated with positive feelings (Sumner et al., 2020) and seem to show empathy towards the particular experiences of Ph.D. students. The *Haha* reaction scores high levels in the Supervisor topic but, due to his ambivalence potential (Phillip, Milner, 2017), needs to be further analysed because may be open to different interpretations. Although the often evil depiction of the supervisor suggests an interpretation of «laughing at» the supervisor.

The absence of negative reactions (*sorry* and *anger*) may also be a proxy of the cohesiveness of the community and the achievement of the manifested humorous purpose of the page.

TAB. 3. *Topics and reactions*

<i>Topic</i>	<i>Average Likes</i> 🇺🇸	<i>Average Love</i> ❤️	<i>Average Haha</i> 😂	<i>Average Wow</i> 😲	<i>Average Sorry</i> 😞	<i>Average Anger</i> 😡
publish	1329	79	992	4	57	1
health	1553	85	985	5	84	0
versus	1573	106	1044	5	65	0
supervisor	1065	44	897	3	46	1
future	1670	94	952	6	124	1
sociality	1406	69	950	5	59	1
expectations	1707	89	1117	6	94	0
colleagues	1253	62	1008	4	56	1

Source: CrowdTangle

A final observation can be made about the levels of engagement related to the degree of interaction activated in users. On Facebook it is possible to publicly interact with content with three main actions: the like/reaction, the comment, and the sharing. While for the like/reaction the only effort request is a simple click, the comment and the share require a higher cognitive cost, making these last two actions a proxy for a higher degree of involvement (Kim, Yang, 2017). The number of shares, even higher than the average numbers of comments per post, suggests therefore that the contents are not only appreciated for the emotions they stimulate but that they are also felt like part of a self-representation that users feel belonging to; to the point that they feel wanting to add that specific content to their Facebook wall, a personal space that represents their digital identity (Dennen, Burner, 2017).

Conclusions

Capitalizing on adaptability and virality and using vernacular registers to reduce communication distances with connected audiences, memes are today one of the most effective tools to activate and involve a large group of users (De la Rosa-Carrillo, 2015) and to create communities where collective identities are negotiated through shared norms and values (Gal et al.,).

Moreover, the platform's affordances foster practices of produsage (Bruns, 2008) and encourage users to get involved in a creative participatory process that allows them to remix pop references with Ph.D.'s references, extending participation in a polyvocal public discourse (Milner, 2013) that simultaneously attract more Ph.D. to the conversation as well as letting more topics of discussion emerge, even the «dark» ones.

In this sense, memes embody the transition from the «logic of collective action» to the «logic of connective action» because the individual repertoires («personal action frames»), that are shared within the social networks, rewrite the boundaries of the participatory action itself (Bennett, Segerberg, 2013)

Memetic language is also used to build strong communities that have the characteristics of counterpublics (Warner, 2002): the construction of the narrative frames and the attribution of meaning is based on shared experiences and are fully comprehensible by in-group members. Knowledge is shared between peers through ironic memes in a mutual informal educational process aimed to teach each other «how to survive» the Ph.D.

These pages are therefore structured as virtual communities and perform a function of «mutual help», offering users the opportunity to share and identify themselves within experiences and problems common to their Ph.D. student's status, a sharing that does not have as its primary objective the resolution of the problem, but rather the communion itself of those experiences within an ironic frame (Ask, Abidin, 2018) that nevertheless triggers a process of public awareness of the problems affecting the experience of doctorate.

Finally, the use of humor and irony – especially Self-deprecation irony (Deller, Tilton, 2015; Dobson, 2015; Kanai, 2015; Szablewicz, 2014) allow Ph.D. students to open up about their lives and discuss even the most intimate and controversial aspects of the Ph.D. connecting different personal experiences and, doing so, deconstructing the «myth» of the Ph.D.

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Pandemic and Self-Representation. Boys and Girls Describe their Reality through Digital Images

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ABSTRACT: *The unexpected impact of the Coronavirus and the drastic changes forced all teachers/educators and students participating in «Inclusione Minori CPIA and PAS CPIA» and «PAS Tutela Integrata» projects to adapt to the new emergency situation and to find a new way of teaching and learning. The projects promoted by the Fondazione per la scuola di Torino aim to lower school drop-outs and to welcome Italian and foreign underage students offering the opportunity to learn the Italian language and/or to obtain a first degree in secondary schools. The research group collected multimedia material related to the self-representation of the students before and after the Coronavirus. To better understand the feelings and the perception of the difficult period during the first lockdown, online questionnaires were given and focus groups were organized for teachers/educators, children and family members for a total of approximately 83 people. Specifically, we asked teachers/educators and students to describe their experience during the first lockdown through the use of images or videos. In the field of visual sociology, multimedia materials help us describe a social and subjective reality. Photos and videos were vehicles of expression and communication despite the distance, promoting an exchange between formal and informal school assignments. Photos collected before the epidemic show passions, hobbies, famous people, activities, landscapes and animals as a way to describe their character traits. Photos related to the lockdown are different: they show deserted landscapes, people who cannot see each other, suspended daily activities or new occupations. From the perspective of soft skills, the search for multimedia material has been an attractive stimulus for students, allowing them to express aspects of themselves that sometimes remain hidden or not verbalized and to take on the role of protagonists within the assigned task.*

KEYWORDS: *self-representation, multimedia materials, visual sociology, CPIA, minors.*

Introduction

To address the present complexity of the current sociocultural context and the multiformity of educational needs for children with difficulty, at an inter-institutional level, tools and actions have been designed and

implemented that are aimed at guaranteeing the right to education and training to Italian and foreign minors enrolled in Turin's CPIA, through specific paths, co-designed and conducted synergistically by teams of teachers, psychologists and educators.

As part of the «Inclusione Minori CPIA», «PAS CPIA», «Provaci Ancora Sam – Tutela Integrata» projects, new models of inclusive teaching are therefore being tested, they are aimed at ensuring the effective acquisition of notions and skills, cultural enrichment and social and scholastic inclusion in a multi-ethnic. These paths are intended for young people from different geographical backgrounds, with considerable differences in language, culture and traditions, as well as with traumatic experiences, learning difficulties, problems with self-esteem, socialization and lack of motivation in order to continue studying and realize themselves.

The monitoring of the Projects – within which is located the digital image analysis section – was formed by the City of Turin, the Regional School Office, the «Fondazione per la Scuola» (Foundation for the School), the «Fondazione Compagnia di San Paolo» (Compagnia di San Paolo Foundation), the «Ufficio Pio» of the Compagnia di San Paolo and was conducted by the Department of Philosophy and Education Sciences of the University of Turin. This work is aimed at the analysis of the reality for minors, previously at risk for dropping out of school early and who are attending specific paths activated in the CPIA.

The main objective of the research is to detect the effective inclusive value of these initiatives, in order to assess whether and how effective integrated educational and training interventions can help students face challenges from the heterogeneity of the contexts in which they find themselves living in, as well as to make productive choices for a working and affective future in line with their own attitudes and aspirations.

The specific objectives of the sociological survey converge in the collection and processing of data and information obtained in the 2019/2020 school year by interviewing all the actors involved – students, teachers/educators, family members and managers – on the perception of the quality and effectiveness of education services, in order to illustrate respectively the profile of minors of Italian nationality at risk of school waste and young foreigners inserted in Turin's CPIA and present even if temporarily in our territory.

In building our survey, we chose the triangulation strategy (Rossi, 2015), which combines and integrates quantitative and qualitative research tools with the convergence of multiple perspectives, with the use of questionnaires, focus groups and commented images. As a result useful working data was obtained on children still under education.

1. The reality of CPIA: aims and actions

The current Provincial Centers for Adult Education (CPIA) have been established with the objective of reconciling the educational offer with the different educational/training needs expressed by people, the territory and the business world, putting individuals, Italian or Foreign, at the center of the educational scene, as an active social actor and promoting their effective inclusion, within the regulatory innovations introduced by DPR of October 29th, 2012.

In particular, they constitute an autonomous school institution, with a specific educational and organizational structure, divided into territorial service networks composed of a headquarter and various points of provision (MIUR, 2015). They are mainly aimed at the education/training of adults of foreign origin, but also at some young people with difficult lives and/or school paths and represent a challenge to reconcile the needs for integral growth of each person, not only with professional and cultural proposals, but also existential, ethical and effective.

The action of the CPIA, aimed at social and labour integration of the most vulnerable sections of the population, takes place in the context of lifelong learning as an expression of organic coordination strategies between local authorities, school context and the work environment. It should be noted that particular attention is paid to the characteristics of the territory in which the Centre is located:

the ability of understanding territorial needs and the importance of considering the CPIA at the centre of synergistic networks for coordination and more efficient mobilisation of resources for adult education (De Luca Picione et al., 412).

In addition, the inclusive and emancipatory thrust in policies and work of the CPIA takes on a role of promotion and enhancement of human resources that can limit marginalization and unemployment, with the aim of supporting an education path and subsequent employment (Spagnuolo, 2014).

2. Protagonists in the Foundation's projects

Within the framework of the CPIA are projects activated by the Foundation for the School, which mainly involve children aged 14 to 18, Foreigners or Italians, who are at risk of dropping out of school, have linguistic difficulties and come from environmental, social and family contexts that are complex or compromised.

With the spread of coronavirus, the need to continue the research work emerged despite the health emergency that occurred at a national and international level.

To deepen the incidence of the pandemic in everyday life, the research group decided to investigate the opinions and perceptions of children about their experience.

To meet the different needs of the participants, a single questionnaire was structured, accessible by link and fillable online, available to all students included in projects run by Turin's CPIA. Two online focus groups were also organized, through platforms already familiar to children, as they are used for educational purposes, in order to facilitate interpersonal communication and the expression of their ideas.

In order to return a correct profile for those children subject of the survey, we report data collected from the questionnaire, which was administered during the first lockdown, or in the period from the end of February to the end of June 2020.

30 people replied to the questionnaire, 70% of whom were male. 90% of compilers were born in Italy, while 10% were born in other countries. The total number of children, who have an average age of about 15, lives in a family setting. As for the perception of Coronavirus, most compilers (79.3%) defined it as a health hazard. During the closing period of the country, the prevailing mood in 20% of students is characterized by sadness and boredom; 16.7% anxiety; 13.3% for serenity and tranquility; 6.7% disorientation and concern and 3.3% anger.

The problems perceived as relevant during the pandemic period concern health (28.9%), the return to normalcy (17.1%), future consequences (15.8%), school (11.8%), separation from relatives and friends (10.5%), lack of work (3.9%) and money (3.9%). 73.3% of children tend to inquire daily about the progress of the pandemic through the news (56.5%), search for news on the Internet (26.1%), reading articles on social networks (13%) and through those people they know (4.3%).

From the point of view in relationships, emotional and material support, the people who helped children the most were 36.7% family members, 36.7% friends, 20.4% educators, 6.3% no person and 4% teachers. In addition, 56.7% indicated that they maintained relationships with their friends, compared to 13.3% who did not continue to cultivate their friendships remotely. In particular, it should be noted that, as regards the relationship with the educational figures of the Projects, 56.6% of the children remained in regular contact with educators and 53.6% maintained relations with teachers. To communicate, most of them preferred WhatsApp (41.5%), followed by video calls (24.6%), social networks (20%), phone calls (13.3%) and email (1.6%). Among those schools aspects that were most lacking to students, there are: staying with classmates (32.8%), relationship with educators (21.3%), recess (18%), classroom lessons (18%), relationship with teachers (8.2%) and others (1.6%). Most compilers (86.7%) regularly took lessons remotely, with the help of school material sent via WhatsApp (25.6%), electronic records (8.9%), e-mail (7.6%), access to platforms (23%), online lessons (23%), video lessons recorded (8.9%) and more (3%). 66.7% of the students used the Wi-Fi network.

As regards to problems with distance learning, 34.6% of the answers related to difficulties caused by slow connection, 25% to the impossibility of finding a place to concentrate, 11.5% related to the difficulty in

completing the activity and unfamiliarity with technological tools, 3.8% related to downloading issues, while 1.9% related to something else. Half of them (50%) said that distance learning has been a positive experience, despite the objective difficulties and the lack of a direct relationship with peers and teachers/educators.

During lockdown, the strength of the Inclusion Projects was realized in doing everything together, even in times of difficulty, and in favoring human aspects. Children's responses strongly show the importance of people such as teachers/educators, which are perceived without well defined roles, but as a unique synergy. As for the perception of quarantine, some students have stressed their need to be able to practice sport and to continue to practice the Italian language. Others told us how much they missed being in school in their everyday life, but also about the monotony of their days during the closure, the lack of friends and the heavy weight of loneliness.

For sake of completeness, it should be pointed out that, in the second phase of monitoring, just as many questionnaires were completed by teachers/educators and family members by children, approximately 86 people were involved.

3. Perceptions of oneself through digital images. Before and during lockdown

During the first lockdown, the research group considered it essential to collect, through the choice and commentary of one digital image, further impressions and perceptions of the children who are attending Turin's CPIA, so as to be able to understand how they lived this period.

In the field of visual sociology, in fact, the image, understood as an expressive and communicative medium of a given reality, becomes a means aimed at studying and analyzing certain social phenomena, as they are perceived and represented by the individuals themselves (Mattioli, 2015).

Before the pandemic period, the students had already carried out an activity of self-description through photos, images or drawings in such a way as to be able to express and make them understand the way they see and relate in everyday life. During the first lockdown, this research was then re-proposed, accompanied by brief comments on the reasons for their choice.

It is interesting to note how the images allow you to express even some episodes of your personal life and to tell important events, sometimes reconstructing a real «autobiography». In the socio-educational field, the autobiographical method allows the students to think of events and situations of his/her life from the perspective of self-training, creativity, enhancement of resources and personal emancipation (Demetrio, 1996).

The iconographic tool allows to collect, build and highlight experiences, or the different experiential and existential world of the

protagonists who, from their point of views, can express also on a symbolic level episodes, opinions and personal concepts related to the reality that surrounds them. With the help of digital tools, students were able to diversify their contribution, sometimes delivering products made with various communication mediums, such as visual stimuli, associated with sound (see Fig. 3).

Below is presented a synthetic extract of the photographs, images and drawings collected – produced in the first part of the research and during lockdown – what was returned details moments of life of the subjects involved. In order to analyze and synthesize the content of the images, some identification categories were identified, based on the most common and/or distinctive traits observed.

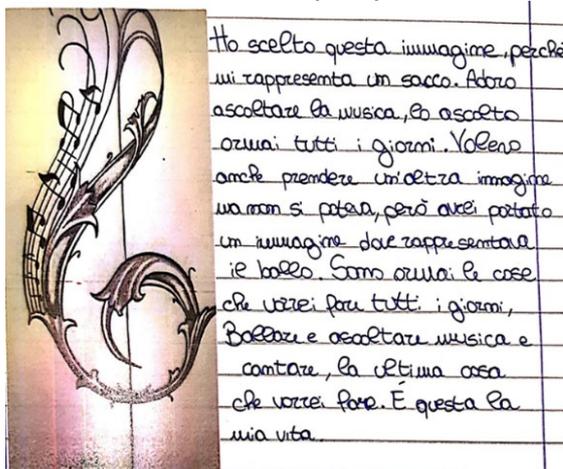
4.1. November 2019, before lockdown. Students were asked to represent themselves with an image and a comment

In this first phase of the research, the digital images collected involved a total of 38 students. In order to analyse and interpret the content, the following explanatory categories were identified: hobbies, free time; cartoon/movie/comic book characters; famous people (models); sport; various symbols; places; animals.

TAB. 1. *Criteria and frequency (emerged from the images of students)*

Hobbies, free time	8
Cartoon/movie/comic book characters	6
Famous people (models)	6
Sport	6
Various symbols	5
Places	4
Animals	3

FIG. 1. *This image represents me a lot. I love listening to music. I listen to it every day now. I also wanted to bring another image, but I couldn't. I would have brought an image where dancing was represented. These are now those things I would like to do every day. Dance and listen to music and sing. This is my life.*



4.2. June 2020, during the lockdown

In the second phase of the research, some 30 students handed over their representative image of the lockdown period. In order to analyze and interpret the contents, the following categories have been identified:

- nostalgia for loved ones and social habits
- symbols that refer to Coronavirus
- life stories
- reference models
- new occupations
- places

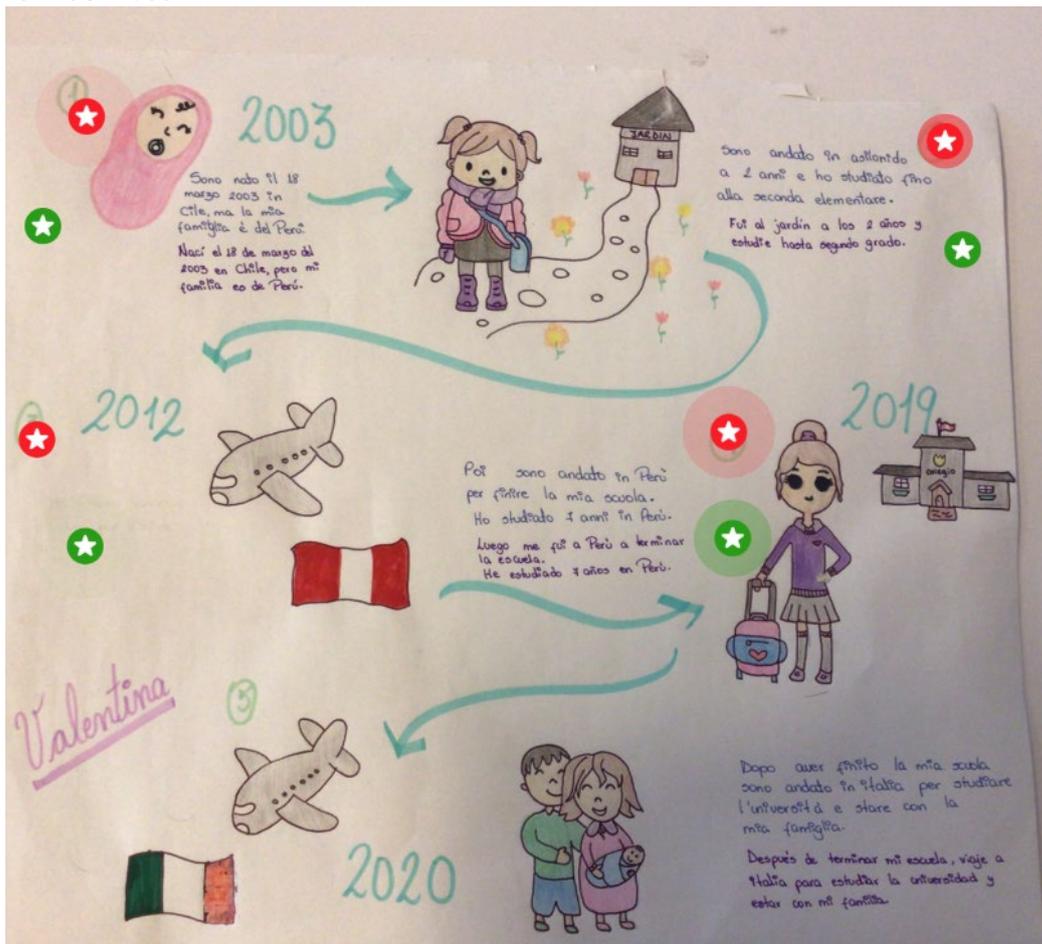
TAB. 2. *Criteria and frequency (emerged from student images)*

Nostalgia of loved ones and social habits	6
Symbols that refer to Coronavirus	5
Life stories	15
Reference models	2
New occupations	1
Places	1

FIG. 2. *For me the virus has taken away many things, the virus has divided me from the person who every day makes my days better*



FIG. 3. Through an interactive multimedia platform, young people have recounted episodes of their personal history, integrating visual, auditory and text sources



Conclusion

Photos, images and videos were a vehicle for expression and communication despite distance, they promoted creativity and exchange between formal and informal schoolwork.

The research of multimedia material has been an attractive stimulus for students, allowing them to express non-verbalized aspects of themselves and to reflect on their current condition and expectations for the future.

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Empowering Digital Creativity Developing Critical Knowledge Through a University Blog, Social Media and Podcasts

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ABSTRACT: *Most Reports depict young people among the major users of Internet and social media. Assuming the hypothesis that digital media can have a strategic role in empowering youth's creativity, we might consider them not only as consumers but as active creators. High education can support the development of a creative thinking to generate and extend ideas, to suggest hypotheses, to apply critical imagination, and to look for innovative outcomes. Since 2012, the master's degree in journalism, public and corporate communication of the University of Bologna promotes Laboratories involving the students in different communication activities also in collaboration with other institutional and social actors. In this paper we focus on the last edition of the Laboratory in Digital Communication and Social Media Management, where students make up a web editorial office. An average of 70 students takes part to the Laboratory. Everyone is called to contribute to the management of the Compassunibo blog, the official blog of the master's degree, a space for report, articles, news and storytelling, as well as to manage the official social network profiles. Through our participant observation and the thematic analysis of contents we reflect on how a teaching method based on 'pro-activity' can improve digital creativity and foster a critical awareness on professional ICT skills. The analysis starts from the output produced by the students using digital platforms as WordPress for blogging, Instagram, Facebook, YouTube, and Twitter for content marketing on social media, and Spotify for podcasting. Students act like content creators who learn by doing, sharing abilities and experiences with others. They gain awareness of the gatekeeper's role about news and social issues that they propose to a community of readers made up particularly by their peers. At the same time, they have the role to build and reinforce the community's bonds. Creating digital contents allows them to develop skills such as sources searching, frame analysis and interpretation, web writing and search engine optimization (SEO). Using the social media and podcast in a professional way they learn to practice new forms of digital literacy. Overall, this learning experience in Laboratory allows students not only to get technical communication skills but also to develop a greater and mature awareness to cooperate effectively in a team, and an immediate portfolio for their future job.*

KEYWORDS: *Digital literacy, digital skills, social media, blogging, creativity empowerment*

Introduction

Most recent statistics show that young people are among the most active users exposed to access new digital devices and platforms. The Agcom Report (2018) concerning Italian use of news shows that there is a migration from traditional media to new algorithmic sources, especially among young people. The Reuters Digital News Report (2020) observes that the 72% of the Italian range 18-24 years old use smartphone to search for and to read news. According Audiweb (2020), 99.5% of young people from 18-24 years old use digital devices. 83.8% of them is daily connected and the 75.4% is connected via smartphone, declaring to spent over 3 and half hours online. This massive presence of digital devices in the daily life of young people needs a reflection from different perspectives. Among the strategic priorities listed in the EU Digital Education Action Plan 2021-2027 we find the development of basic and advanced digital skills, and the increasing of the digital literacy. The Digital Competence Framework 2.0 (Vuorikari et al., 2016) identifies the key components of digital competence in 5 areas: information and data literacy, communication and collaboration, digital content creation, safety, and problem solving.

But what is meant by digital literacy? We are used to see young people with digital tools always in hands, we define them as digital natives and as a generation 'always on' because of the massive use of social media, app and other ICT tools, but this easy access to the tools does not necessarily mean that they are digital literate (Livingstone, 2009). As Danah Boyd states considering the example of social media,

[...] it's important to realize that most teens are engaging with social media without any deep understanding of the underlying dynamics or structure. Just because they understood to use technology does not mean that they understand the information ecology that surrounds it. Most teens don't have scaffolding for thinking about the information practice (Boyd, 2009)

Then, we need to overcome a functional definition of digital literacy that considers only a minimal set of skills that enable the user to run with tools. Buckingham (2015) proposes a definition of digital literacy as a discipline that aims to train digital literate individuals, people who can compares range of sources, and sorts authoritative from non-authoritative, and relevant from irrelevant, documents. People able to evaluate and use information critically if they must transform it into knowledge. But which factors can influence this idealized rational search for information? As an example, we know that unintentional and indirect information have strong influence as much the intentional one, and that the criteria of the authoritative judgment are related to broader social, political, economic forces, included the inequalities in the socialization opportunities. Digital literacy is closely related to media literacy: as Cappello, Fellini, Hobbs (2011) argue in their proposal for a global media education, we must consider young people as active meaning-makers. In

this sense, digital literacy is not simply having a material access to technology, cabling all schools, or giving tablet or laptop to students. To take full advantage of the digital media for education, we need to make students interact more (self-) reflexively with media, learning to get, select, process, and create information on their own, generating critical knowledge, playing an active role in the construction of the reality, triggering a self-reflexive process of social inclusion and cohesion. This can be considered as creative use of digital technology.

Our reflection assumes that digital creativity and digital literacy are strongly connected when we refer to the social frame of the education. In a sociological perspective, we can assume that gaining skills is a social process, «involving people, objects and their significant, as well as their distribution in terms of space, environment, technologies, different languages, different forms of expression» (Lalli 2010, 10). If we consider students as proactive subjects, education is not limited to the transmission of knowledge, but a sharing process where also earlier knowledge is integrated and processed by interaction, where all participants produce meaningful information. As we already said, the access is not a sufficient condition: we need methods and approaches fostering a critical, conscious, and creative empowerment. How high education can support the development of a creative thinker? One of the possible directions is involving students in projects and workshops where they can actively use digital media, developing reflexive approaches as a prerequisite for using them also as resources for learning. The first challenges are the awareness about the invisible constraints of the digital platforms' affordances as well the capacity to face the more complex identification of the sources and their power in terms of agenda setting and framing (McCombs, Shaw, 1972). As an attempt towards this, we propose one example of a formal training laboratory at the University realized with participatory and informal workshop's methods directly engaging the students.

1. Practical laboratories as learning environments

Since 2004, the master's degree in Journalism, Public and Corporate Communication of the University of Bologna promotes several Laboratories and workshops involving the students in different communication activities also in collaboration with other institutional and social actors. In this paper we focus on the last edition of the Laboratory in Digital Communication and Social Media Management, where students make up a digital newsroom. Organized in different teams, all of them experiment the participation to weekly meetings, the setting of the editorial plan, as well as the web content management, from the idea to the publication and online dissemination. 75 students take part to the Laboratory. Everyone is called to contribute to the management of the *Compassunibo blog*, the official blog of the master's degree, a space for

report, articles, interviews, news, and storytelling, as well as to manage the official social network profiles and to produce podcasts.

Many scholars have explored these multimedia contexts as a space for learning by-doing and developing technical and soft skills. O'Donnell (2006) reflects on the advantages that blogs as a cybercultural practice can supply new ways of doing conversation, building relationship and critical thinking. Hodgson and Wong (2011) pursued the hypothesis to use blogs for journalism students based on peer-assisted learning; Larrondo et al. (2020) underline as multimedia projects based on virtual collaboration can help students to make experience of the professional responsibility in the communication field, as well as to know routine aspects of online content production and dissemination strategies via social media; they allow them to hone their ability to approach subjects from creative, innovative perspectives, and go beyond what they know about media as digital natives. Bazzarin and Lalli (2011; 2012), describing two laboratorial practices reflected on the benefits of taking part in online communities; producing, sharing and promoting content, students become aware of the agenda's role of information, enhancing a collective definition of topics that deserve to be treated as public problems. They can use digital media in a strategic way to be involved in the public debate as informed citizens.

One of the basic ideas of our Laboratory is a proactive peer-to-peer learning context, where each student acts like a professional who learns by doing, sharing abilities and experiences interacting and building relationships, developing a «supportive culture of peer-assisted learning» (Hodgson, Wong, 2011). This creates a flexible and dynamic teamwork environment where both students and teachers take part in the construction of every stage of the journey, from planning to implementation. The need for an active participation and a proactive responsibility in the same teamwork gives the opportunity to mutual recognition for an organizational culture: the participants make up a community – though temporarily - whose brand equity depends upon their activity and their problem-solving actions. Furthermore, the debate and the content production provide the possibility to rethink intersubjectively meanings and perspectives on their professional world as well as on the implications of the agenda setting and framing functions in selecting the issues.

2. Methodology

Our analysis is based on the direct observation that we conducted during six months and half (from 1 November 2020 to 15 May 2021), and on the thematic analysis of 181 blog posts, 99 Instagram posts and 40 podcast episodes produced and published in this period by the 75 students who took part to the Laboratory. The observation took place in all the meetings with students, in online chat discussions, in daily communications

individually or by groups. As concerns the content, we detected and aggregated the topics and the formats found by students.

3. Case study

The students were divided into 10 working thematic sub-groups, mostly chosen by them. Around each theme the group simulated and experimented the organization and working practices of a newsroom, to create dossiers, insights, and information contents on those topics. The groups were: interviews, events, culture, Europe, online education, youth conditions, work and occupation, sport, media and information, environment, and sustainability.

In autonomy, distinct roles have been defined and distributed within each group: secretariat and spokesperson for the team, editors, social media managers and representatives of multimedia projects (videos and podcasts), and web analysts. To coordinate activities and allow everyone to take part even remotely, we used technological platforms such as Microsoft Teams for meetings and daily chat, and Google Drive for managing the editorial plan and sharing files. Each group then activated its own virtual room for its own internal coordination and communication.

From November 2020 to May 2021, 20 two-hours general meetings were held. The first meetings aimed at an 'educational agreement', allowing students to know the context and familiarize themselves with the proposed proactive methods and the master's social platforms. The tutor and the teacher presented and discussed the activities of the Laboratory, illustrated the training goals, and shared the available tools. The students also met four professionals specialized in web marketing and visual journalism to ask them questions on their experiences. In the other meetings students were the true protagonists: they exposed their proposals, shared news ideas, negotiated the weekly agenda of topics, discussed on communication strategies directed to the different audience for each platform.

3.1 Blog: students as gatekeepers and critical thinkers

Published in the academic year 2012/13, the Compassunibo blog is the official blog of the master's degree course. Content and objectives are designed by the students, since it represents an information space on topics related to the areas of the course of study (institutional, political, and social communication, marketing and advertising, genders studies, information and media studies, sustainability, etc.); it is also a diary of events held in the Department such as seminars, conferences, and lectures; the blog was also born with the aim of enhancing the projects and the experiences of the students, for example research and thesis, international mobility projects, internship experiences and graduate work paths. Overall, the central idea has always been to build a community

open to discussion, composed of students, teachers, researchers, and people interested in communication. From a training point of view, the blog stands for a real opportunity of learning by doing (Williams, Jacobs, 2011). On the one hand, students get useful skills to work in digital communication and journalism, concerning for example the routines of a digital newsroom, such as the newsworthiness criteria, the selection of the sources, the capacity to understand and communicate the data, to make interviews, to design and manage an editorial plan, to write for the web, to curate Search Engine Optimization, to choose the image suitable for each article (Larrondo et al., 2021). On the other hand, in a cooperative learning environment, they gain soft skills for critical thinking, ability to understand, analyze and represent events and problems, attitude to collaborate in team-working. The challenge is to support a learning experience based on the ability to share knowledge and practices.

Since November 2020 to 15th of May 2021, students published 181 blog articles, with an average of 30 articles per month. Reflecting on the content elaborated by students, we can group the blog post by three macro thematic categories:

- Social issues of collective interest: climate change, sustainable challenges, gender gap, violence against women, European policies, youth employment, cultural resources, sport, youth hardships, especially connected to the experience of pandemic. The consequences and the effects of the pandemic in different social sector have been the *leitmotif* of many articles. For example, students have proposed reflections on the critical issues and limits of online teaching in schools and universities; they have carried out small surveys within cultural sectors (cinema, museums, theatres, musical events), or with references to the world of sport (e.g. gyms, sport centers, sky resorts). Addressing these issues meant asking questions, search for data and correct sources in a contemporary complex media landscape, build a network of contacts made up of professionals with whom to enter in dialogue, adapting languages, styles, and adapt ways of communicating and interacting in each situation. At the same time, in addition to collecting information for the articles, they also had to reflect on the visual representation of the topics, selecting images and videos to tell the theme, and to support their ideas.
- Issues from academic program, selected for critical reflection: several aspects related to marketing, advertising, technology, and new media, as well as journalism and public communication. In many articles students present case histories to analyze strategies, showing strengths and weaknesses, also to explain the social impact of some technologies that have become part of everyone's daily life. Furthermore, we find articles where they try to share instructions with readers on how to use some platforms according to different contexts. This type of contents is a stimulus for a critical and conscious use, overcoming the supposed standard

technicalities that often prevail. Here digital literacy is a crucial challenge, because students must explore how online media content are made, which codes, languages, affordances and models are imposed, and spread. Writing these blog articles represents another opportunity as well: to act as a critical learner and an active citizen.

- Reporting and storytelling about academic and civic events: the students become reporters. Once again this meant integrating the experimentation and use of technical equipment (e.g., microphone, camera, video-editing programs) with the development of creative skills. They acquire the ability to select events of interest to the community, to re-elaborate speeches and interventions, to summarize, to formulate questions and criticize what has been heard.

In addition to these thematic categories, we observe that a very recurring content on the blog and one of the most followed and appreciated formats by the readers is represented by interviews. Students learn another typical multistep journalistic practice, and moreover they could talk to people they would hardly meet in their daily lives. They must first make a choice, selecting authoritative and competent people on a subject, or people who can share testimonies that are important to their readers. Then, they must look for material and resources useful to get to know a theme or a person better, necessary to prepare a list of questions. Students learn to listen, to build a direct dialogue with a person who may also have different ideas from their own, they learn to improvise. The next step is to write the interview, when they face the complex responsibility to consider both their self-represented audience and the interviewed person.

3.2 Social media: experiencing digital storytelling

A social team has been created within each work group. Students take turns as social media managers and digital content creators. For each platform they develop an editorial plan following a multi-channel communication strategy and animating the institutional social channels with daily content. In this paper we focus only on the management of Instagram, although the daily activity of the Laboratory also works with Facebook, Twitter, YouTube, and Telegram. Instagram represents, in fact, not only a space to give visibility to blog content and podcasts, but a channel to practice forms of digital storytelling. As concerns the analysis of the posts we have a twofold perspective, the content, and the experience. In the observed months, 99 posts have been published in the feed, 4 videos on IGTV and many daily IG stories.

Next to content created to promote university events (es. Open days), students have designed content set addressed to a community composed mainly of young followers (28% were aged 18-24; 55% were aged 25-34)¹.

¹ Last update 15 May 2021.

Assuming students as gatekeepers we can identify four macro-categories of contents in the visual storytelling projects.

- 'Agenda Europa', a weekly column aimed at promoting active European citizenship among young people. Students create image carousel, texts and infographics to share opportunities, information about EU Institutions, special projects aimed at young people and international mobility experiences made by other students.
- 'Green Corner', a true *peer-to-peer dissemination* experiment focused on environmental issues and sustainability made by carousel, Instagram stories with quiz-stickers and informative captions.
- 'Discovery SMA', a weekly column where students explore and present the museum collections of the University of Bologna by virtual tour, video-interviews and images, contributing to the University's mission of public engagement.
- 'Secrets of Bologna', when students tell some of the symbolic places of the city of Bologna through photos and captions full of historical information, aimed at focusing attention also on curiosities and secrets; the goal of this weekly column is to introduce the city to prospect students and increase the knowledge of current students.

Considering the students' experience, we can identify some strengths: opportunity to practice the management of visual storytelling projects; the awareness about the technical constraints of the platform; the ethical management of the peer-to-peer dissemination; the critical reflection on the practical interaction within the Instagram community.

As for example, students become conscious of the social media dynamics and reflect on the polarization of information and the rule of algorithms. They also try to elaborate texts suitable for the public of the specific platform, exercise web writing, choose the right tone of voice, seek accessible language that is proper to the context of the social network, promote engagement through effective call to action, moderate and check comments and reactions. This activity has been also an exercise in promoting their blogging work, as well the shared issues and the equity brand of the digital newsroom.

3.3 Podcasts: sharing voices and ideas on Spotify

Another area of multimedia production explored and experimented by students is podcasting. There are different experiences of universities that use and disseminate podcasts with educational purpose (Lazzari, 2009; Rajic, 2013; Mooney, 2019):

In higher education podcasting has evolved from unidirectional platform for delivery academic lectures into an interactive, generative medium for engaged, experiential student learning and socio-constructivist co-creation (Mooney, 2019, 3).

As for Instagram, also for podcasting we can mainly focus on the content and on the experience represented by the task of planning, implementation and dissemination in a platform combining old and new media. Students did the planning of 4 different formats (WeeklyCompass, ConversAction, Bussole, and Moda & Digital Media) and a collaborative playlist.

WeeklyCompass is a weekly format, consisting of 5-minute episodes released every Monday morning. It is a weekly agenda of news, events, and opportunities from the Department. ConversAction is a bimonthly format of 15/20 minutes dedicated to interviews. In each episode the students interview a professional from different sectors to explore a particular professional field or discuss a current issue. Bussole is a monthly format of 20/30 minutes where students explore current topics chosen by them through a talk among several people (e.g. sustainability goals, gender-based violence, social effects of pandemic, gamification, and active citizenship, etc.). Fashion & Digital Media is a bimonthly format with 30-minute episodes where students interview other students of the Fashion & Digital Media course to analyze together best practices and case histories in the field of fashion marketing and communication. Overall, in six months, they released a total of 40 episodes. Next to these formats, on Spotify they also proposed the launch of a collaborative playlist. Every two weeks students promote on social media channels a keyword called 'playword', inviting people to share songs inspired by it. In the analyzed period 8 playwords were launched to create a collaborative music playlist bottom-up. The keywords chosen were union, distance, change, hearth, disobedience, care, trust, and roots.

The podcasting experience also proved to be positive for the empowerment of students' digital creativity, team organization, and critical thinking. Thanks to their working groups, they took care of planning, implementation and dissemination steps.

In general, the podcasting experience allows students to develop skills in four different areas: a) technical skills related to the use of recording and editing tools; b) a whole series of skills that we can summarize in communication abilities concerning the agenda setting of events and news, the choice of topics for a specific target, the search for reliable and authoritative sources, the content analysis, the presentation of case histories, the sharing of their critical opinions; c) expressive skills such as writing a track, telling social issues and topics with storytelling formats, applying the sound components of a text appropriately (timbre, intonation, intensity, pause), using a specific language, listening to oneself and evaluating the effectiveness of a recording; d) social skills such as working in a team and collaborating to achieve a common goal, contacting professionals and interviewing them, evaluating different contexts and last but not least, giving solutions to problems.

Conclusion

Acting from the perspective of the producers, students has been encouraged to ask critical questions about the news-making process, about the platforms 2.0 that they daily use and about the relationship with the audience. The participant observation of the editorial board meetings as well as the daily review and checking of articles encourages us to reflect on two aspects that we consider relevant for the digital creativity empowerment.

First, the proactive training environment invites students to position themselves as professional workers and issues-gatekeepers. At the beginning they are unfaithful because of the usual experience of the individual performance requested for the formal assessments (the exams). Thus, they expect more lectures and compulsory ready-made tasks to obtain the credits in their career, than an opportunity to learn by doing and committing themselves. However, step by step many of them show confidence in the participatory activities, actively engaging themselves. Gaining legitimacy for a proactive method has been a hard task both for teachers and students. Faced with the common expectation of learning communication techniques, students have had to overcome the belief in the need of an easy toolkit constituted of ready-made rules, to discover that the big challenge was assuming a problem-solving attitude.

Second, one great obstacle strictly connected to the conventional way of academic performance is represented by the difficulty to manage team working and to believe in its effectiveness. But our observation shows the strongest outcome of the Laboratory experience: the progressive ability to practice the peer-to-peer support supplying pro-active creativity. The interactive exchange between all students has been a progressive experience we acquired, even during the general meetings. If in some case directed, all the Laboratory activities have been based on debate and discussion during the meetings and the chat line, with the class, the workshop sub-groups and individual students.

Overall, most students reported in a final meeting that the Laboratory supplied skills and experiences that might contribute to an immediate portfolio of works for their future job hunting (O'Donnell, 2006; Bazzarin, Lalli, 2011).

Finally, what have we learnt? We need a new perspective for digital creativity and critical digital literacy, to overcome the mere idea of evaluating individual performance skills: an arduous work to combine formal and informal education within an environment where students and teachers are always facing too many individualized constraints. One of the most difficult challenges - in a social landscape where competitive meritocracy prevails - is building together a common sense of belonging to an interactional frame, such as a community of students and teachers, though temporary, contrasting the idea that only individualism unleashes excellence, when it really ends up socially creative cues. Working with

our students helped us to realize that is crucial to intercept their enthusiasm and listen to their wish to know, think and act. For this purpose, we must go beyond the mere computation of credits hours and average grades, to engage ourselves in new challenges, together with them.

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Futuri (Im)Perfetti. Social Foresight and Digital Creativity as Practices to Extend the Ability to Aspire

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ABSTRACT: *In recent years social foresight techniques have been developed to facilitate the exchange of knowledge between different kinds of social actors in order to create a shared image of the future in a specific organisation or territorial context. The Italian project «Futuri (im)perfetti» is an action-research project promoted in 2020 by the Giacomo Brodolini Foundation, together with ItaliaCamp, Forcoop, San Donato Scs, Stranaidea and Vides Main, in collaboration with Forwardto-Studies and skills for future scenarios and supported by the Compagnia di San Paolo. The entire path of the project is aimed at creating a cultural association that will be a place of contamination and inclusion where young people can have the opportunity to exchange skills and ideas with their «innovator» peers. In this context, 8 online workshops on utopias and dystopias have been designed and conducted and about 60 girls and boys under-30 have been involved in exploring alternative and desired future scenarios, starting from themselves and their own aspirations. The paper aims to: i) describe the main theoretical and methodological assumptions of social foresight in the context of the action-research project, Futuri (im)perfetti, which highlights the normative and participatory potential of social foresight; ii) present the analysis of the material that emerged in the 8 laboratories on utopias and dystopias (scenarios and cultural mediators) and in the media production workshops of the «Manifesto of the future» (digital creativity), led by the Forwardto team.*

KEYWORDS: *future studies, social foresight, digital creativity, capacity to aspire, participatory culture*

Introduction

The democratization of futures, as well as their colonization, has in the urban environment a privileged point of view. In cities are concentrated the main processes of social, economic and political differentiation, innovations find fertile ground to be processed and implemented, social phenomena are expressed with greater strength and evidence (Marciano et al., 2020).

In urban sociology, the concept of the right to the city (Lefebvre, 1971; Harvey, 2011) has been created to describe the collective actions that try

to overturn the direction and meaning of urban projects from above. The city can be a product, if it remains an expression of abstract knowledge, or it can be an «opera», if its physical and social infrastructures, its development model, or aspects more related to the quality of daily life, are elaborated through an active and conscious participation of the citizens.

The subject of this article is the project «Imperfect Futures» (FI), which set itself the ambition of widening the voice (Barbera, 2008; 2010) on social changes in Turin to a part of the citizenship usually excluded from decision-making processes, in particular young people under 30. project «Futuri (im)perfetti» is an action-research project promoted in 2020 by the Giacomo Brodolini Foundation, together with ItaliaCamp, Forcoop, San Donato Scs, Stranaidea and Vides Main, in collaboration with Forwardto-Studies and skills for future scenarios and supported by the Compagnia di San Paolo.

The voice of citizens has been declined as a field of action where to articulate not only visions, but also concrete projects, in order to cultivate the capacity to aspire (Appadurai, 2014). The future has become the pretext for redesigning the present. The international pandemic has also set a new condition for the implementation of the project through digital platforms. This has added, among the aims of the project, that of reasoning about how the use of such tools and, in general, the media diet of young people, can affect their processes of social construction of reality.

This contribution, in describing the objectives and implementation of the project, therefore aims to answer the following questions: What ideas of the future emerge most strongly in the utopias/dystopias of the young participants? What role do digital media play in their socio-cultural construction?

The first part is dedicated to the premises of the Imperfect Futures project and to the interdisciplinary scientific literature that inspired it. The focus is, in particular, on Futures Studies, and on the strategic foresight approach. The second part is dedicated to the results of the exploration and to a discussion, which focuses on the role of cultural mediators in the construction of utopian and dystopian imaginaries of the future produced by the participants.

1. Futuri (Im)Perfetti: theoretical premises of an action-research project

The theoretical references of the project are to be investigated in the field of Future and Foresight studies (FFS) and in the reflection led by some scholars about the concept of «capacity to aspire».

FFS is a trans-discipline born after the Second World War to refine theories and research methods aimed at studying «futures» (Barbieri-Masini, 1988; Bell, 2003). As the plural noun suggests, one of the basic axioms of this approach is that the future is ontologically multiple and,

more importantly, has not yet happened while it is being studied (Poli, 2017). FFS does not set out to develop methods and techniques with the goal of predicting a single development, but rather to reinforce a projective and anticipatory look at the present.

The antecedents of the FS are to be investigated in the great mobilizations that occurred during the world wars, as well as in the cyclical economic crises and in the national socio-economic planning, which showed the irrepressible need of a strategic knowledge. Over time, the acceleration of technological and social innovations, the awareness of living in a world of increasing complexity, and finally the advent of the pandemic, with its radical and anything but momentary changes, has strengthened the demand for a methodologically rigorous knowledge capable of giving new tools to deal with the «panta rei», starting from the fact that it is possible to divert its course.

Already many years ago, Gustav Berger (2014), emphasized that the purpose of FFS is to build a competence, more than a punctual set of knowledge: it is a critical ability, which probes systematically the present in search of latent phenomena and trends that are characterized by a high margin of uncertainty and impact, but at the same time, which explores the ability to aspire and sediments the habit of acting in the present on the basis of shared goals.

To elaborate diversified scenarios and/or to systematically build a shared narrative about the future in an organization, are two of the most common activities in a specific branch of Futures Studies that is Foresight.

The essential characteristic of Foresight is that it adopts essentially qualitative methods of data collection and analysis, with a medium-long term view (e.g., 10 years), where the raw material of the elaborated narratives is the interchange of ideas among different types of participants: domain experts, decision makers, but also users, clients, common people. It is a practice increasingly rooted in the production of public policies, as evidenced by the presence of a specific section in the JRC of the European Commission, and also in the strategic training of executives of companies of various sizes.

One of the most interesting fields of application of FFS is in the empowerment of civic engagement and substantive democracy. Appadurai (2014) speaks of the capacity to aspire as a political horizon for overcoming the material and immaterial poverty of the peoples of the global South. The future, for billions of people, seems to be a 'luxury good': partly because the urgency to survive crushes energy on the present, partly for traditional and religious reasons. Utopia requires ideology. A reflection taken up by Pellegrino (2013) who describes with the concept of «evaporated future» the perception, widespread especially among the new generations, of not having any power of collective «agency». A shared and activating idea of the future seems confined to restricted groups, to socio-cultural elites. This is the outcome of social processes such as the precariousness of working and personal life, the

decline of traditional welfare systems, of the great ideological narratives, the crisis of authority (from family to religion to science).

Cultivating the ability to aspire therefore becomes a political process, rather than a cultural one: extending the «voice» of change to those who have no voice.

The project FI was organised in different phases.

The first phase of the project consisted in the engagement of under-30s: a public call for proposals was formulated; meetings were organised at schools, universities, neighbourhood houses; finally, reference was made to the city's large network of associations, cooperatives and private social organisations in order to reach the most «marginal» under-30s. The second phase involved the organisation of 8 online workshops (Zoom/Miro), attended by an average of 7/8 young people at a time. The workshop consisted in applying a method consisting in the generation of dystopias and utopias on a specific object (the future of the City of Turin and theirs in that context). The third phase consisted of a focus group aimed at drawing up a Manifesto of the Future, preparatory to the establishment of an association. This last phase is still ongoing. Our article therefore highlights the results achieved mainly in the second phase, where the imaginations of the young people and their main creative activities are located.

Another central issue of the project is the reference to digital creativity.

The production of utopian and dystopian imaginaries about the future of the city and the personal future can be considered a creative activity, aimed at producing useful ideas or even simply exploring opportunities. Creative is a cultural process in which cognitive elements (like ideas and information) are shaped by and shape emotional experience (Amabile, 2012). According to Dyer et al. (2018), creativity is a central phase of the Innovative Process and can be described by schemes of action such as: Questioning, Observing, Experimenting, Association. The digital component is given by the tool used: the young people interacted via the Zoom platform integrated with Miro's collaborative tool, and this affected the interaction.

Regarding the methodological approach, the narrations of a dystopic and utopic future emerging from the workshops were the textual material analysed in this research, which is inspired by the investigation branch known as *narrative inquiry* (Clandinin, 2007), in which narrations are given a great cognitive value (Kaneklin, Scaratti, 1998; Polkinghorne, 1988). In the workshops on dystopias/utopias, the young men and women themselves were the guarantors of the reliability and validity of the meaning constructions whose disowned voices embed – in the individual narratives – figures of a broader collective imagination.

The material collected has been analysed using a hybrid method in which the grounded approach (Glaser, Strauss, 1967; Strübing, 2008) has been enriched by ethnographic insights and field notes. There is thus – at the foundation – an emergency theory of an inductive kind, focused on the process of assigning meanings just as they are expressed by the

participants. It is qualitative research (Mortari, 2007) that supports an open setup and purposes responding to explorative criteria. The research included: *a) open coding*: transcription of the voice-recorded narrations and the main topics related to the subject, as well as topic coding; *b) selecting coding*: classification of the coded units in meaning categories and subsequent classification of the categories identified under macro-categories (classification process with ascending order of abstraction); *c) system coding*: «model construction» process with an integrated model of results capable of presenting the emerging concepts. The analysis process used was distinguished by a constant inter-subject discussion between the scholars, which implied dynamic and repeated second readings of the text.

2. Figures of the collective imagination. Cultural mediators and the capacity to aspire

In cultural process sociology the concept of collective imagination – meaning a shared flow of narrations and images generated and communicated by subjects individually and collectively in society (Ragone, 2015) – has a relevant position in the study of socio-cultural mechanisms distinguishing the production of media in the convergence culture (Leonzi, 2009; Ciofalo, 2020). Sociological imagination highlights how the collective identity is based on values and behaviours affected by narratives and metaphors that individuals come in contact with in the network of relationships distinguishing their daily lives, or by means of institutions, or – finally – through the different forms of cultural consumption, including media consumption (Abruzzese, 1973). The consequence of the passage from mass media to convergence media (Jenkins, 2007) has been gradual customization of media consumption experiences, a de-ritualization of the different forms of collective use, and therefore a fragmentation of the imagination in a wide range of media spaces and experiences. Frezza (2015) discussed post-imagination, namely «a different configuration compared to the past of collective imagination itself, whose cornerstones are challenged by the emergence of digital media and multimedia, interactive, and globalizing cultures of the 21st century». While the imagination activity implies calling upon cognitive resources and is based on symbolic thought and the ability to create images, collective imagination is an archive of socially shared images that – in a growingly media-centred world – conditions and steers individual imagination capacity (Ragnedda, 2006).

In this scope, we have deemed it necessary to investigate – in our project – the role of those who we might consider the cultural mediators of the future imagination process by the workshop participants. Based on the transcriptions of the contributions and discussions made during the 8 workshops, we have recorded the cultural mediators that have been explicitly mentioned or illustrated, and have contributed to giving shape

to the images of the future described by the participants. The mediators are cultural references to media or media content belonging to the collective imagination and that have contributed to shaping the content of the settings processed.

Such investigation aimed to explore cultural references serving as mediators for the processing of dystopic and utopic representations, by identifying the correlations between the media imagination and the ability to imagine alternative futures. Such correlations may be useful to explore – at a larger scale and with a statistically significant sample – the dominating figures of imagination in the narrations of the future made by the young men and women, as well as the role of emerging narrative archetypes (Dator, 1979; Fergnani, Song, 2020) in the capacity to aspire to desirable futures.

We have analysed two types of cultural mediators:

- Media content as cultural activators, i.e. contents whose interpretation presents frameworks and images that give a structure and orientation to the narration of the future. This role is highlighted, for instance, in passages such as: «I have in mind the *Meltdownflags.org* website, where the white part of the flags is reduced depending on the meltdown of the glaciers in the respective countries».
- Media as internal diegetic elements of the narrations of the future, i.e. elements of the media imagination included in the stage setting by the participants, as seen in one of the dystopias presented: «There are the ruins, still fuming, of the recent war between Facebook Corp. and world governments».

Result analysis¹ shows certain hints of a starting point for further investigation based on representative pools and targeted towards proving the following hypotheses concerning the relationship between forms of imagination and the imagination of dystopias and utopias of the future.

- The dystopias include a large number of images inspired by media and content related to fictional narratives. Numerous references were made to films, documentaries, and sitcoms with scenarios highlighting social differences (*Hunger Games*, the zombie movie horror genre), sense of alienation (the *Black Mirror* series), loss of social/relational and affective skills (*Funny Face*, *Her*) or the depletion of critical thought (*The Social Dilemma*). But even references to literary works such as Orwell's *1984* or Atwood's *The Handmaid's Tale* inspire dystopic visions distinguished by the regression to worlds in which human beings live like robots, losing independent thought or civil rights. The references to direct experiences or ones mediated by social networks and smartphones

¹ The data processed to draft this paragraph are available at this link:
<https://drive.google.com/file/d/1I25pWj-Wd3rLDyAJQHketiuShdRoWxte/view?usp=sharing>

inspire future scenarios in which platform-mediated social actions cannot affect the offline reality, or where the passivizing use supersedes creative production. Websites and infographics like the ones of *Meltdownflags.org* – which shows, on the national flags, the local magnitude of glacier meltdown due to global warming – feed catastrophic dystopias related to environmental devastation. The storytelling form of multimedia setups such as *Anthropocene* also offers food for thought for environment-related dystopic narratives. An environmentalist icon like Greta Thunberg is linked to the fear that, in the future, the media attention towards personalities may develop into a true consolidation of a close-knit environmentalist movement. Soundtracks of environmentalist dystopias range from *The 2nd Law: Unsustainable* by Muse to classics such as *Imagine* and *Blowin' in the wind*, reinterpreted in versions that overturn their original sense. Nietzsche's philosophy is quoted as a source of inspiration for a dystopia based on the awareness of an *eternal recurrence*, whilst Bauman's *Wasted Lives* represents a scenario of narrations of the future distinguished by marginalization and social inequality.

- The dystopias include hyper-mediated scenarios, with a strong presence of communication technology, and they take the tangible threats in the present day to the extreme. In the visions described by the participants, social networks are presented as surrogate environments for relationships that come to lack any form of authenticity, and where judgement and aggressiveness replace empathy: social media as technology for the homogenization and depletion of the critical thought. In one of the visions, *Instagram* will feed the artificial minds of citizens in 2050. In another, *Facebook Corp.* is at war with world governments and works to delete critical spirit and control people's minds. Popular personalities such as Elon Musk are described as innovators who are not interested in human wellness, but merely in the challenges of progress: technocrats that set no limit to the power of technology. Digital screens are the only point of contact with a representation of reality that no longer exists in its physical form: it is only accessible through an avatar. The TV repeats messages and content obsessively, dilapidating the critical skills of its viewers. The strong presence of media in the dystopias is most likely related, in part, to the pandemic reality experienced by the participants in the past year, which has caused an increase in the use of devices for distance learning, smart working, and social activities.
- In utopic scenarios, the presence of cultural mediators – in particular, ones based on fictional images – is significantly smaller: two-thirds less than that observed in dystopic scenarios. A number of participants have observed how utopia is less represented by media, and have usually identified nonfictional mediators, less related to the media agenda and rooted in the present, but rather to

forms of activism or cultural initiatives. From the architectures by Sant'Elia, to Pistoletto's *Third Paradise*, to the *TLON* project, the sources of inspirations quoted by participants in their visions are based on circularity, sustainability, and harmonic integration of architectures and participatory social spaces, in which communities are inclusive and focused on the cultural growth and self-fulfilment of citizens. Etienne De La Boetie's *Discourse on Voluntary Servitude* was the mediating element of a context based on freedom, equality, and respect. Fictional mainstream media have been mentioned to outline topics related to sustainability, social integration/inclusion of different cultures, and grassroots public participation. Tim Burton's *Charlie and the Chocolate Factory* was referenced as a source of inspiration for a utopic future based on eco-friendly and light mobility, while *Taro*, a video by the group Alt-J, shows a «cultural melting-pot»: a gathering of different colours, people, and cultures, which inspires a future of «sharing, starting at the grassroots level». While fictional narratives have guided the imagination of dystopic scenarios by the participants, the references made for desirable futures were mainly found in design, activism, and cultural reflection rooted in the present.

- Unlike dystopic scenarios, utopic visions see a smaller presence of diegetic media, i.e. protagonists within the accounts. The scenarios are post-media and in part de-mediated. Interfaces and devices are ecologically inserted in a social fabric where relationships are the core of a community. In the utopic future, the Internet is a means of connection, not of promotion or sale. Communication technology improves people's awareness of the importance of the relationship with others and the environment. Even the use of social media is conscious and ecologically included in the existential experience (as hinted in one of the scenarios, «we will have the ability to be surprised by the simple things: a sunset observed and not photographed, a story of pain told and not censored, a hug that is not posted, but inhabited»). Web platforms are public and transparent for every citizen; information is reliable and correct. Communication, cooperation, and relationships are based on iconic, graphic, and multimodal. Relationships are the core of entertainment, with new drive-ins as public areas for socialization and motivational films that improve personal wellness.

The analysis of cultural mediators of dystopic and utopic scenarios emerging throughout the 8 workshops of the Futuri (im)perfetti project has allowed us to identify numerous connections between imagination and the ability to imagine the future. These may be well worth expanding on with representative participant pools. In particular, topics worth further investigation include: the relationship between socio-cultural profiles of young men and women and reference cultural mediators in processing narrations of the future; the relationship between the level of familiarity with media images and the ability to explore alternative

futures; the relationship between representations of the future (utopic and dystopic) in mainstream media and the creative imagination skills related to possible futures.

3. Short conclusive considerations: the capacity to aspire as a complex dimension

The symbolism produced throughout the workshops – the result of an interpretation of the present and the projection of individual aspirations in the future – has been a precious occasion to explore the semantics often unknown to under-30 individuals.

Despite the representation limitations of the research subjects, the emerging contributions offer valuable perspectives to the reader who wishes to empathize with the feelings of this portion of the population «with a future at risk».

The prevalent use of cultural mediators in the dystopias as opposed to the utopias may be interpreted as a sign of a general struggle to break free from the «glue of the present».

These workshops prove how the capacity to aspire must be considered a complex skill whose outcomes cannot merely back the epistemological setup of the individuals. Indeed, the use of cultural mediators and the common perception of time with the same traits make us understand how individual aspiration is always the result of an area of compromise-convergence between collective and individual imagination. We thus believe that a multi-perspective (political, social, economic) inquiry of how the current policies and socio-cultural models support and stimulate such complex capacity is a matter of vital importance.

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Focus on the Future. An Orientation Project of the University of L'Aquila

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ABSTRACT: *In today's society, informal learning patterns increasingly involve the use of creative tools that enable individuals to rapidly acquire new knowledge and skills. Since, in a constantly evolving context, it is mainly young people who are experimenting with ever-changing creative practices, it seems necessary that educational institutions also learn to speak the language of innovation (Shaheen, 2010), using original tools to dialogue with young people and making educational proposals accessible and comprehensible to them (Fabbris, 2009). In this perspective, this contribution aims to illustrate an orientation project carried out within the framework of the degree course in Education and Social Service Sciences at the University of L'Aquila and addressed to students of some Abruzzo high schools. In order to strengthen the collaboration between schools, universities and the working world, the researchers developed a two-steps cultural proposal, able to positively intervene on the students' reflection and construction of the educators and social workers profiles and their professional prefigurations. Within the framework of informal learning strategies, the project coordinators used innovative tools to allow the students to focus on tasks, objectives and methods of intervention related to the working environments in which the two professionals work. Specifically, the project included different moments of orientation, training and action, set in two different settings: school and university classrooms. By virtue of an articulated workshop course, which included simulations and role-plays, objectives and tasks relating to the professions in question were analyzed, using participative learning practices and heuristic and creative strategies to achieve the expected training outcomes.*

KEYWORDS: *Orientation, university, school, education, innovative practices.*

Formal and informal learning in guidance practices

Although the issue of the relationship between «formal-informal-non formal learning» is by no means a new question in educational and sociological studies, it has recently acquired a new configuration in the context of the processes of informed and conscious guidance by considering them no longer as separate categories, but as elements that merge and include each other.

In this contribution we will touch upon some of the general reasons for this renewed attention aimed, especially at analyzing the effects of the

interaction between formal and informal learning in the university and school context, developed following the implementation of the orientation activities foreseen in the POT-SUPER project entitled «Focus on the Future» carried out at the University of L'Aquila.

We therefore begin our analysis by briefly examining the character of the use of informality in orientation processes in relation to formality, focusing on the interconnection of local inter-institutional relations that have made the SUPER experience a special case in Abruzzo for the dynamics of informal practices in the formal.

In this «orientation/learning project» it was possible to focus on the formal/informal relationship, especially with regard to university choice, using the fact that «informal learning» is not a single process, but implies different types of learning, as well as the centrality/identity of the «learner».

This implies, however, careful planning and control of learning activities, which allows one to understand and measure what has been learned from experience. Choosing an educational pathway implies that the individual is able to elaborate a project of himself for a valid and productive insertion in society, in the world of work and professions, in the world of family responsibilities and relationships, in the world of culture and democratic life not only of his own country, but also of Europe and in perspective of the whole world (Pellerey, 1997, 49).

This also includes learning derived from engagement in some targeted activity, where one is vaguely aware that one is learning even if the prevailing focus remains on «conscious learning».

In many cases there are some elements of formality in informality, such as in supervised learning, which are aimed at promoting more conscious learning and the achievement of certain outcomes.

Similarly, in most formal learning situations, elements of informality appear, as in the cases of situated learning (Lave, Wenger, 1991) and application to specific life situations of the learners, especially on the level of reconciliation of new learning with individual experience, even when they are more or less unconscious, involuntary (Lave, 1992), unintentional or unplanned (Hager, Halliday, 2009, 172).

The danger of conceiving the different types of learning – formal/informal – as separate categories creates, above all in the field of guidance, quite a few difficulties, especially when it is not possible to make the most of the characteristics and previous experience of the student in order to increase positive thoughts about his choices and future.

It is therefore more correct to conceive of «formality» and «informality» as attributes present in all learning processes. The priority is to identify these attributes, explore their relationships, and identify their effects on students, teachers, and the learning environment (Colley et al., 2003).

In general, informal learning contexts are considered as a dimension involving different acquisition processes, which concern specific theoretical approaches.

On the basis of these approaches, within the Project, some informal practices were defined and characterized and a model of guidance and «informal counselling» was developed with reference to «reflection *in* and *on* action», which contributed to build the experience starting from the analysis of the concrete situations and needs of the learners in order to «govern indecision» thus avoiding to alter the context.

Understanding the guidance and mentoring strategies that underlie the emergence of informal practices in the development of precise forms of intervention in formal contexts means avoiding misunderstanding the nature of learning itself.

2. Orientation between formal and informal practices

Here the terms «formal» and «informal» are used to systematize and describe the multiple learning processes that can occur consciously or accidentally in various contexts with a view to continuous reinforcement between different actions and practices and be organized in very different ways within the orientation process.

However, the relationship between them is not always clear and explicit and does not always act in a seamless way, although its consolidation would instead enhance the process of awareness and recognition of the individual learner's experience, as a pathway to record the acquisition of the «gains» of individuals from the interaction of all types of learning in any environment.

It aims at making knowledge and skills visible so that they can combine and build behaviors and attitudes of different natures (Werquin, 2010) making them explicit and recognizable, also in terms of outcomes. There is a wide variety of procedures and approaches to recognition of guidance interventions on formal and informal learning with different objectives and responsibilities at different levels.

The success linked to formal integration models in which informal guidance practices are grafted is basically based on a few elements:

- the promotion of the students' initial level of interest and motivation;
- the quality of materials and tools able to support a high level of motivation of the students and to respond effectively to their expectations and needs;
- the construction of strategies and operational schemes able to provide students with institutional or inter-institutional support, which requires the use of informal/formal activities preceded by careful planning and followed by adequate execution and control that necessarily involves a multidisciplinary team composed of

experts from different areas and that play a significant role in addressing problems of «uncertainty in university choice» and in the use of integrated learning systems that aim at breaking down misperceptions or beliefs and that constitute the basic elements for the organisation of formal guidance programmes using informal elements.

The use of informal practices in a formal context is a promising approach to linking education to learners' choices and professional development, offering functional support linked to their life needs, as it seeks to maintain awareness for what they do and understanding of the most effective consequences through use of innovative tools to achieve goals.

Formal/informal integration in guidance offers more eclectic and multidisciplinary approaches with short term effects and long-term results, especially on decision making processes, enhancing the learners' experience and bringing it into the university experience and future life.

It cannot be denied that, based on several successful cases of their implementation, as well as on their ethical and technical foundations, informal practices and contexts within the formal can offer an answer to the search for alternatives and supports to solve the problems of guidance and tutoring.

The appreciation of different types of learning outcomes, e.g. through access options to education, within and between education pathways, through «facilitating systems», is such that it leads to a reduction in learning time and removes obstacles to the educational and professional success of learners.

The recognition and assessment of informally and formally acquired competences as well as the quality of practices and experiences in the field of guidance are often based on collectively agreed agreements, tools and strategies used to harmonize the training and employment system with procedures, analysis and profiling of cultural profiles.

The significance of competences acquired informally in the school system is also highlighted not least in the context of guidance processes and in apprenticeship activities in those who have to complete their training or in any initial and continuous phase of training. The relative recognition of students as non-passive recipients of training action calls for the ability to act on several levels, favoring forms of interaction and integration between different learning components, as well as between contexts and tools in order to make concrete the implementation of a «community of education at local level» which acts in continuity at training level.

Places, times, situations and relationships are therefore vital elements and unthinkable conditions for formal orientation with the support of informal practices. These elements will also be decisive for the form, content and not least the exchange and effect of the «conversations and dialogues» between the different actors. The close and direct connection to the experiences and events of the participants can create

unprecedented formal situations of guidance and counselling (Lave, 1988).

The distinctions between informal and formal practices in guidance should not be confused, however, with the «ability to cope with something», which normally refers to the type of action required to respond to the «choice» needs of the academic pathway and is linked to the concept of «appropriateness». The «appropriateness» of the orientation actions in entrance, *in itinere* and in exit are based on the degree of conformity/non-conformity and on the formal/informal actions with which small or big isolated problems can be faced. However, there are circumstances in which a «formal» action can help and support an «informal» action and vice versa with the intention of taking intermediate steps to reach a final goal.

In order to understand the dynamics of formal and informal practices at different levels in the processes of orientation adopted in the SUPER project, we introduce the concept of the use of informal practices in the formal in the orientation as a concept of «creative practice» that implies a deeper and broader understanding of the relationship between individual, training and professional culture. Framed in these terms, orientation recalls a social model of creativity understood as a dynamic system that connects people, institutions and domains of knowledge (Csikszentmihalyi, 1988).

Proponents of systems theories have held that creativity is the sum of many interacting parts of a system, including cultural and social aspects, such that creative ideas cannot be attributed to any single entity but are the result of the interaction of different elements (Csikszentmihalyi, 1988; 1999).

Creativity comes from the interaction of systems and this underlines the importance of a community of practice that is aimed at supporting a creative orientation, which also highlights the importance of understanding what it means to promote and support a community of education at the local level.

The model of creativity in orientation practices is mainly based on the one hand, on the relationship between formally prescribed dimensions and those not formally prescribed (the orientation actions) and, on the other hand, on the positioning of different actors (university students, university tutors, students from schools in the area, teachers, school tutors, mentors, objective function figures, professionals, technicians, administrators, etc.). All of this in a variety of specific environments (corridors or classrooms, etc.) aimed at consolidating relations between the various figures involved in the process of supporting the student by highlighting his internal resources in order to put him in a position to make the most of the external ones.

3. The integrated guidance experience

The orientation experience and the University-School-Territory connection can also be traced back to all those activities of the POT-SUPER Project aimed at strengthening the understanding of the value of the choice of a university pathway, of professionalization and of individual and collective well-being, which reveals the need to clarify attitudes and perceptions with which the student approaches higher education and looks at his/her insertion in it. Conventional and non-conventional ways of organizing and implementing guidance practices facilitates the acquisition of transversal knowledge and skills that enable students to understand the recognition of, for example, regulated and non-regulated professions, conventional systems such as the use of CFUs, scientific-disciplinary fields, educational organization, etc.

However, since university course descriptions are defined by operational requirements and generally do not correspond exactly to the students' perceptive prefiguration of professional profiles and qualifications, it is necessary to identify tools to offer them concrete support to understand as closely as possible their own desires in order to put them in the best conditions to face the difficulties of initial insertion as well as those *in itinere* and of understanding the course and its spendability.

It is about guidance in the sense of preparing for the professional complexity of the future by raising learner participation and understanding of the value of different levels of professional qualification in different fields.

As is well known, formal recognition is regulated at a political level and goes hand in hand with rights for access to education and within the quality education system it acts as a broad context (Napper, 2010, 187-188), where the different guidance figures (teacher, tutor, assistant, mentor, school counsellor etc.) focus on strengthening the learner's internal resources, where formal and informal support differ in terms of levels of containment, confidentiality, roles and training contract.

This is generally defined through paths, objectives and contents, exams with which one usually receives a corresponding appreciation in the labour market, but also the autonomous, individual and social approach to study within an approach where all education becomes orientational (Domenici, 2009). The integrated orientation between informal practices in the informal fosters and recovers what Donald Schön (1983) describes as «reflection in action» to analyze in situation the real event in which the orientation requires limits and attention, thus promoting the well-being of the learning learner.

4. Practicing the university guidance

With a view to improving university choice guidance tools, it seems increasingly necessary to develop innovative strategies aimed at enhancing students' inclinations, while trying to identify their real potential¹. As De Feo and Pitzalis (2018) point out, choosing one's professional destiny means not only anticipating a relationship between an investment and a result, but also implies the ability to foresee the present and future symbolic meanings connected to a choice and its consequences, thus linked to the definition of self that one wants to build. Secondly, in view of the growing complexity of social scenarios, young people must be enabled to face the world of work with an adequate stock of skills, having learned, also through the chosen course of study, the fundamental characteristics of the profession they intend to exercise.

This is the main educational objective of the POT-SUPER project «Focus on the future», carried out by the University of L'Aquila's Degree Course in Education and Social Work Sciences. The project, which is part of the initiatives promoted by the Ministry of Universities and Scientific Research to encourage Italian high school students to choose a university course in a more informed manner², aimed to provide participants with an in-depth knowledge of the professions of educator and social worker, the two figures the course aims to outline. In order to strengthen the link between high school and university and to put in place truly effective policies to counteract the phenomena of early school leaving (Domenici, 2009), it seems increasingly necessary, in fact, to fill the orientation deficit of high school students with respect to the contents of the different courses of study, also encouraging a greater knowledge of university dynamics.

Several studies (see, among others, Burgalassi et al., 2016), have shown that a wrong assessment in the choice of university pathway is among the most frequent causes of student drop-out, showing how an

¹ «Student orientation [...] is an extensive notion involving various and at times opposing practices and devices that respond to diverging interests and incorporate the notions of guidance, orientation, consultancy, information, communication and commercial marketing» (De Feo, Pitzalis, 2017, 219). According to scholars, guidance processes, activities and events can be considered as «market devices».

² In November 2019, the Italian Ministry of Education, University and Research publishes the call «Plans for guidance and tutoring» to innovate and support orientation and tutoring actions of Italian universities. The Bachelor Degree Course in Education and Social Work Sciences of the University of L'Aquila took part in the call together with a network of 15 other universities led by the University of Siena, which proposed the project «Super-guidance and tutoring to promote academic and professional success». The project aims to carry out guidance and tutoring actions to support the professional prefigurations of students in an innovative perspective, far from traditional models. For more information, see Fabbri and Giampaolo (2021).

effective guidance activity is able to significantly reduce this kind of risk (Ishitani, Snider, 2004)³. In fact, in spite of the numerous reforms of our university system, Italy continues to be characterized by a relevant phenomenon of student drop-out and by a widespread irregularity of study paths (Triventi, Trivellato, 2015). In our country, the percentage of young people who drop out of university education is quite relevant and undoubtedly higher than the average recorded in the main European countries; as reported by EUROSTAT (2020), in 2018 the percentage of Italian young people aged between 18 and 24 years old who left the education and training system early (*early leavers from education and training*) was 14.5% – with a marked difference between men (16.5%) and women (12.3%) – compared to the average of the European Union countries of 10.5%. As is well known, the reasons behind the decision to drop out of school early are manifold and involve factors of a heterogeneous nature, which often end up being mutually reinforcing. Social, psychological and economic motivations seem to influence the phenomenon of early school leaving, leading scholars to search for interpretations able to identify the mix of factors that expose certain individuals more than others to the risk of dropping out (Colombo, 2010). As Besozzi (2006) points out, a central role is played by the student's family of origin; in social contexts that offer little support outside the family network, the cultural capital of parents often ends up influencing the goals and life projects of young people (often regardless of their personal vocations), highlighting a correlation between the family background and the life chances of the subjects.

In the light of these considerations, in order to promote a more conscious access of students to university, the coordinators of the POT-SUPER project at the University of L'Aquila developed a formative guidance programme able to widen the knowledge of the professional role and functions of educators and social workers, inserting this initiative within a wider reflection on the use of innovative and informal orientation practices⁴.

From an operational point of view, the project involved the students of four Abruzzo high schools (Domenico Cotugno High School in L'Aquila, Benedetto Croce High School in Avezzano, Marie Curie High School in Giulianova and Saffo High School in Roseto degli Abruzzi) and saw the participation of a total of 90 students enrolled in the 4th year and one teacher from each institute. The intervention plan was structured in two phases, the first of which was carried out directly in the schools and the second in the structures of the Department of Human Sciences of the University of L'Aquila.

³ «Drop-out was defined as students who either left their initial institution and never returned or left their initial institution but returned to the institution after a period of discontinuation in enrollment» (Ishitani, Snider, 2004, 7).

⁴ For a more detailed description of the project see Roberti, Nuzzaci (2021).

If the aim of the first step was to illustrate the basic contents of the degree course, underlining the characteristics of the professions of educator and social worker, the purpose of the next step was to build a shared path that would help young people to better understand the fields of action, the attitudes and skills needed by those who work in the social-educational and social-assistance services. To this end, thanks to the direct participation of two privileged witnesses working in the field as educator and social worker respectively, we tried to structure an innovative guidance path based on informal learning strategies. In fact, the project coordinators have chosen to bring innovative and informal educational practices into a formal setting such as the university, creating a participatory workshop that can bring out the real potential of the students involved and make them reflect independently on the information shared during the previous phase.

The choice of adopting a model able to balance formal and informal orientation actions in an innovative way proved to be one of the most rewarding elements of the whole project, because it stimulated the curiosity and interest of the students, allowing them to experience truly active and participative learning methods. As is also confirmed by the Memorandum on Lifelong Learning produced by the European Commission (2000), there are three basic categories of purposeful learning activity: 1) formal learning, which takes place in education and training institutions, leading to recognized diplomas and qualifications; 2) non-formal learning, which takes place alongside the mainstream systems of education and training and does not typically lead to formalized certificates; 3) informal learning, which is a natural complement to everyday life: since it is not necessarily intentional learning, it may well not be recognized even by individuals themselves as contributing to their knowledge and skills.

Partly in the light of these suggestions, the challenge of the POT-SUPER project of the University of L'Aquila was to find an innovative balance between formal and informal, bringing informal and innovative modes of action into formal contexts such as schools and universities.

5. The «Focus on the Future» Project

As we have pointed out, with a view to grafting informal and innovative educational and guidance practices (Werquin, 2010) within formal learning environments, the POT-SUPER project «Focus on the Future» aimed to go beyond the traditional forms of learning of knowledge, skills and competences, assessed and certified by educational institutions, to promote, instead, an approach to university guidance able to cultivate students' skills, making them experience forms of learning based on relationality and professional practices (Eraut, 2000). In fact, the proposed intervention aimed at transforming a formal «learning environment»,

configured as a physical place intentionally equipped (setting) to respond to educational needs, into an innovative space within which to set pedagogical strategies and informal didactic tools, so as to promote and support truly participatory learning processes.

To this end, the first phase of the project combined the presentation of the core contents of the degree course in Education and Social Work Sciences with the description of curricular life histories⁵ by five female graduates of the course, who were specially selected and trained to take part in the initiative as tutors. The direct and informal account of their university experience by the selected students was intended to reduce the emotional distance with the participants, encouraging the activation of processes of identification and involvement. As De Feo and Pitzalis (2018) have underlined, through the illustration of their academic career, the student tutors make it possible for high school students to project themselves into the future, acting as a sort of *cultural intermediary*⁶ able to bring them closer to the university reality in a concrete way. Tutors' participation also ensured that a more spontaneous and friendly atmosphere was created in the classroom, enabling the school students to formulate their own questions about the content presented to them in a more laid-back manner⁷. The final part of the meetings focused on the account of the internship experiences of the tutors, so as to begin to socialize the students with the actual working contexts in which the professional figures from the Degree Course in Education and Social Work Sciences can operate.

The second step of the project took place at the Department of Human Sciences of the University of L'Aquila, in order to build an invisible link between high school and university and to enhance the educational continuity of the guidance actions promoted. This phase envisaged the direct participation of two privileged witnesses, professionally engaged as an educator and social worker. The encounters had a strong laboratory character, in order to allow the students to interact directly with these figures and to better understand the fields of intervention, the attitudes and the skills needed by those who work in the social-educational and social-assistance services. During these activities we chose to favor a didactic approach based on participative learning methods, encouraging students to intervene and reflect independently on the information

⁵ Regarding the use of life histories Munro (1998, 8) writes: «the current focus on acknowledging the subjective, multiple and partial nature of human experience has resulted in a revival of life history methodology. What were previously criticisms of life history, its lack of representativeness and its subjective nature, are now its greatest strength». On this topic see also Zanfrini (1999).

⁶ For a first definition of the concept of cultural intermediaries see Bourdieu (1979). On this topic see also Solaroli (2004).

⁷ According to research carried out by Slack et al. (2014), prospective students accept comments made by senior students as truthful and representative because they come from students already enrolled in degree courses.

shared during the presentations. In order to encourage the active participation of the students and to promote informal interaction modes, the workshops included a series of role-plays and simulations, so that the students could confront themselves with the concrete working practices that the professional figures of educators and social workers are called to experience. The two experts' contribution made it possible to connect practical and theoretical knowledge, allowing the students to acquire direct insight into the activities and the main problems which characterize the two professions in their different operating contexts. In short, the activities carried out in this phase have facilitated the continuous comparison between school, university and the world of professions, which still seems to be lacking in the Italian educational contexts, stimulating forms of collaboration able to mitigate the condition of imbalance between labour demand and supply⁸.

Ultimately, the innovative choice of grafting informal practices and approaches onto highly formalized contexts represented a truly challenging experience both for the teachers involved in the project and for the students themselves, who were called upon to participate directly and creatively in the various activities proposed. In the light of the results achieved with this first experience, we can perhaps say that the challenge was won.

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⁸ As has emerged from numerous studies, the Italian educational context is still characterized by forms of skill mismatch, with negative consequences on the chances of young people entering the labour market quickly; for more in-depth analysis see Antonucci et al. (2014).

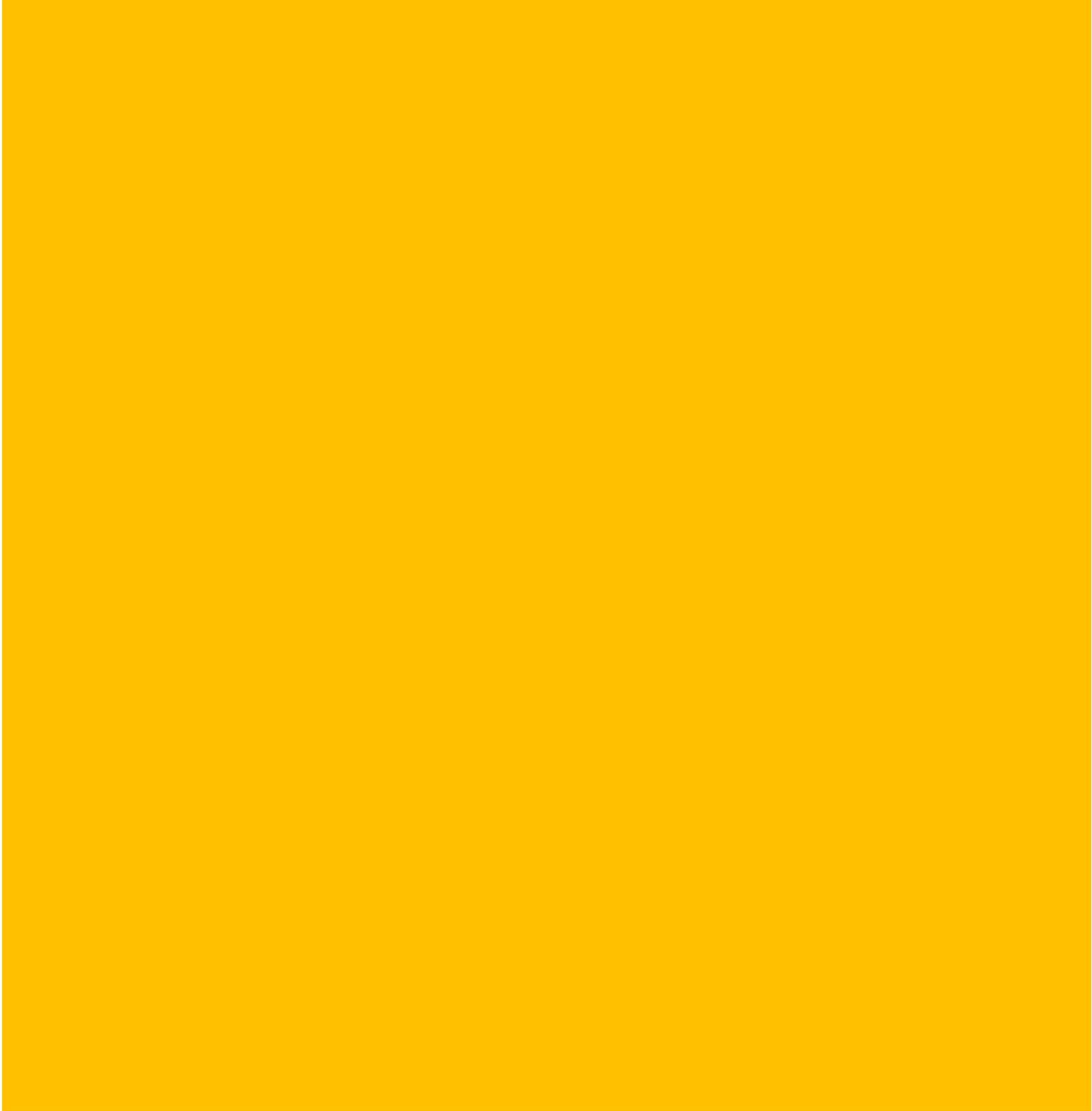
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