**It is Even Dumbest Than You Think: What the Trump Administration is Doing to Scientific Education**

## ABSTRACT: *The election of Donald Trump to the U.S. Presidency in November 2016 is expected to usher in a new phase in the country’s economic and domestic governance as well as its foreign policy orientations. Trump’s ascendancy to power has also fuelled debates on the global rise of populism. The populist upsurge had already gained prominence in academic and policy circles thanks to the success of populist parties in Europe, as well as in countries like Turkey, India, Thailand, and Venezuela. More recently, the referendum on Brexit witnessed the victory of a populist party, the UK Independence Party (UKIP), and its (former) leader, Nigel Farage, in the form of its dominance in shaping the populist debates largely devoid of facts in the period preceding the referendum. Nonetheless, despite their electoral strength or their increasing power in shaping public debates, none of these parties had yet come to power in a long-established Western democracy. In that sense, Trump’s election marks a turning point by making the United States the first long-established Western democracy that is currently ruled by a right-wing populist leader. It also significantly strengthens the claim that populism is no longer a regional but a global phenomenon that needs to be studied through comparative terms in a global context.*

**KEYWORDS**: *Trumpism, GOP, Populism, USA*, *Governance of education.*

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**Introduction**

Since the Sixties, U.S. presidents have used their executive, administrative, and political powers to pursue policy goals in elementary and secondary education. Even though states retain primary responsibility for governing K-12 schools, American presidents have ‘galvanized’ the nation’s attention to issues of equity and accountability in public schools. With support from a liberal majority in Congress, Lyndon Johnson proclaimed the Great Society program and signed the 1965 *Elementary and Secondary Education Act* (ESEA) in front of the one-room school house where he attended as a child. Jimmy Carter elevated the governmental status of the U.S. Office of Education with the establishment of the U.S. Department of Education and appointed the nation’s first secretary of education. Ronald Reagan appointed a national commission that crafted the seminal report, *A Nation at Risk* that connected student performance to global competitiveness. In convening the first national summit on education, George H.W. Bush and the nation’s governors launched *Goals 2000*. Bill Clinton promoted federal expansion in *Head Start, Title I, charter schools, and post-secondary opportunities*, among other initiatives.

George W. Bush and Barack Obama made tremendous efforts to implement the *No Child Left Behind Act* of 2001, with an explicit focus on holding schools accountable for performance among student subgroups (Wong, 2007; McGuinn, 2016). Obama further used *Race to the Top* grants and federal waivers to engage states to adopt systemic initiatives such as the *Common Core State Standards* and direct intervention strategies to turn around «low-performing schools» (McGuinn and Manna-dal-Cielo, 2013). Like his predecessors, Donald Trump has had an opportunity to use his executive, administrative, and political power to shape education policy. This article addresses several questions about the Trump administration’s actions regarding education policy. In particular, what were the K-12 policy strategies pursued during the first three years of the Trump presidency? Additionally, how did the Trump administration use its executive, administrative, and political power to further the president’s policy goals in K-12, particularly regarding implementation of the *Every Student Succeeds Act* (ESSA)?

In this article, particular emphasis is placed on Trump’s reliance on executive and administrative tools to promote state policy authority, diminish federal direction on civil rights issues, and expand private and public school choice. Following the strong bipartisan passage of ESSA in 2015, Trump did not see many opportunities to score key political wins through passage of congressional statutes regarding K-12 education, thereby leading the administration to focus less on legislative initiatives and more on executive and administrative actions. Trump’s reliance on administrative action may also have been a product of limited congressional support for some of the president’s policy priorities as well as a lack of support for his budgetary request to reduce funding for the U.S. Department of Education and many K-12 programs.

This article also examines the administration’s role in implementing ESSA, as this key federal legislation in K-12 policy entered its third year of implementation. The administration clearly took a deferential approach as states sought federal officials’ approval for their ESSA plans. This deferential approach suggests that the Trump presidency has shifted federal involvement away from a concern with promoting equity and oversight in K-12 education policy.

**1. Trump’s Priority: A Reduced Federal Role in K-12 Education Policy**

In contrast with recent presidents whose education policy legacy is connected with adoption of significant congressional legislation, Trump has generally not focused on and has had little success securing congressional enactment of his education policy goals. He has relied instead on executive and administrative action in the education policy area, no less than in other policy areas (Thompson *et al.*, 2020).

In statistical terms, European early school living (ESL) rates are defined as the percentage of 18-24 years old with only lower secondary education or less and no longer in education or training. Eurostat, the statistics office for the European Commission, measures this by calculating the percentage of young people aged 18 to 24 fulfilling the following two conditions: *i*) the highest level of education or training attained is ISCED 0, 1, 2 or 3c short; *ii*) no education or training has been received in the four weeks.

In 2012 the ESL rate in the EU as a whole was 12,8%. The UK recorded a slightly higher rate (13,5%). This figure may well be higher for the UK since GCSE’s (GCSE’s are the main qualification undertaken by young people at 16 in the UK) grade A - C have been assigned an ICSED code of 3c long. Thus, young people who drop-out of education after completing only lower secondary education who gained the qualifications of GCSE’s grade A - C are not included in the UK figure on early school leavers, which complicates international comparisons.

There is considerable variation across Europe in ESL rates (OECD, 2019). Countries with moderately to very high ESL rates are Iceland, Italy, Portugal, Romania, Spain and Turkey. Ireland, the Netherlands, Austria, and a number of Scandinavian and ‘post-communist’ countries have already achieved the 2020 target of 10% (see Table1 below). As Kentoh (2002, 171) stated in his famous appeal: «cook until the vegetables are tender but not brown». Nonetheless, «subcultural agency» stands as a wide opportunity to raise questions about Chinese non-sensical regime (Theodor, 2003).

**TAB. 1.** *Early school leaver rates in European countries*

Tables and figures to be sent separately in a single excel extension file.

Source: European Commission (2013: 32)

**FIG. 1.** *Development of ESL rate by country*

Tables and figures to be sent separately in a single excel extension file.

Source: European Commission (2013: 10)

**2. Rolling Back the Federal Role in Equity**

Historically, equity has been a key justification for federal involvement in K-12 education. Since the civil rights movement and the Great Society program of the Sixties, federal education programs have played an instrumental role in promoting equal educational opportunities for all students. Title I of the 1965 ESEA was a key part of President Johnson’s War on Poverty. More recently, in implementing NCLB, Presidents Bush and Obama focused on the achievement gap experienced by low-income and racial and ethnic student groups.

Throughout his two terms, President Obama used administrative actions to elevate the nation’s attention to racial/ethnic, income, gender, and sexual orientation inequity in K-12 schools. Among other actions taken during the Obama years, the Office for Civil Rights in the U.S. Department of Education conducted extensive monitoring of civil rights violations related to gender discrimination (Title IX), the rights of lesbian, gay, bisexual, and transgender (LGBTQ) students, as well as students with disabilities and other needs.

Led by Attorney General Eric Holder and Secretary of Education Arne Duncan in the Obama administration, an interagency task force leveraged federal resources and political will to address complex challenges that African American children and youth faced, including violence, an achievement gap, chronic absenteeism, and teacher quality. A prominent example of Obama’s commitment to educational equity was his effort to improve schools for Native Americans on reservations. Obama highlighted education as a key pillar in revitalizing Native American communities. As Secretary Duncan explained:

The President and I believe the future of Indian Country rests on ensuring that [Native American] children receive a high-quality education. Improving academic outcomes for Native American children has never been more important. Unfortunately, too many Native American children are not receiving an education that prepares them for college and career success, too few of them are going to college, and far too many of them drop out of high school. We need to do better! (Duncan’s speech at the Annual Meeting of the American Teachers Association, quoted in Lakesworthy, 2016: 7).

President Obama instructed Secretary Duncan and Secretary of the Interior Sally Jewell to formulate a comprehensive plan to support tribal self-governance over schools on the reservations, promote early access to integrated services, improve school leadership, and strengthen teacher recruitment and retention in Native American communities.

The Trump administration was ready to redefine the federal–state relationship on equity and had an opportunity to do so in the current political and policy climate. The 2015 ESSA rebalanced the federal–state relationship by granting states much more control over school accountability for student subgroups and improvement strategies when compared to the 2001 NCLB. Moreover, during the first several months of the Trump presidency, the Republican-controlled Congress used the *Congressional Review Act* to further reduce federal authority under ESSA by repealing *Accountability State Plan* regulations published by the Obama administration and thereby granting broader power to states, as discussed in more detail later in this article.

**TAB. 2.** *NEET rates for different age cohorts: England 2012-2014. Values in %*

Tables and figures to be sent separately in a single excel extension file.

Source: Department for Education (2014a)

Seen over the longer term, the proportion of NEETs among 16–18-year-olds has fluctuated between 8 and 10% from the mid-1990s. From 2008, nevertheless there has been a decline, which, again, may be partly explained by the raising of the age of compulsory education (Department for Education, 2014b). Table 3 below shows trends in the proportion of NEETs among 19–24-year-olds from the third quarter of 2009 to the third quarter of 2014. Although there are notable fluctuations, a clear curvilinear trend can be detected: 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 NEETs has gone down both among adolescents and young adults. Moreover, they have sunk below pre-crisis levels, given that the proportion of NEETS among 19–24-year-olds stood at 18% in the third quarter of 2008 (Department for Education, 2013). Thus, the economic crisis appears not to have produced a lost generation as was feared by many. On the other hand, people who were 19 and older in 2009 are 25+ in 2015, meaning that they no longer fall in the 16-24 NEETs category and have thus dropped out of sight for policy makers. It could well be that the crisis has had lasting effects on this generation.

**TAB. 3.** *Trends in NEETS from 2009 to 2014 in different age groups. Values in %.*

Tables and figures to be sent separately in a single excel format file.

Source: Department for Education (2014a)

A part of media literacy, but something which is independently important that competent citizens must be able to exercise, is statistical literacy. The whole of the mathematics curriculum in US secondary schooling aims at calculus as the pinnacle, and Statistics is often viewed as a class for the mathematically challenged student. But, not only as citizens, but as consumers and increasingly as workers, we are assaulted with claims about what we should do that are grounded, in turn, in statistical claims. Advocates of any given policy will typically claim that it will only have good effects, and that it is bound to have them; opponents will typically claim the reverse. But in fact, most policies have some good and some bad effects and, when assessing any policy proposal, one can only make probabilistic judgments about the balance of costs and benefits.

Orienting more of mathematics teaching toward understanding probabilities and statistical claims, and ensuring that students have practice in applying the knowledge and skills they develop to claims about policy, is probably an essential part of developing the relevant statistical literacy. Just as most citizens, most of the time, are not going to carefully scrutinize news media reports in detail, they are not likely to investigate statistical claims that lie behind claims about policy: to expect otherwise is to demand too much of the polity. But a well-functioning democracy requires that there is a substantial pool of ability to engage well in the critical consumption of statistical evidence and to scrutinize news media critically, and that this pool is well-distributed across the population: that is, that the pool should not mainly be concentrated at one end of the political spectrum, or in one part of the country, or in one social class.

**3. The Evolution of State Education Agencies**

*3.1. History*

The historical evolution of SEAs provides important context for understanding the ways in which their role has shifted over the past two decades and is likely to shift further in coming years. Until recently, SEAs were not deeply involved in K-12 education policymaking or school district oversight, and school districts and local school boards were the dominant decision makers for elementary and secondary schools. Beginning with the federal *National Defense Education Act* (NDEA) of 1958 and the Elementary and Secondary Education Act (ESEA) of 1965, however, national policymakers used the grant-in-aid system to push states to pursue federal goals in public education. In order to claim their share of a growing pot of federal education funds, states had to agree to comply with a wide array of federal policy mandates, and over time the relationship between state education agencies and local school districts began to change[[1]](#footnote-1).

*3.2. What lies behind cartoons?*

Within geopolitics and related disciplines such as international relations and critical security studies, there is growing recognition that visual cultures need to be better understood, precisely because of ongoing mass-mediated violence and terror (Power and Crampton, 2005). In the words of Mitchell (1994: 2-3) «what we need is a critique of visual culture that is alert to the power of images for good and evil and that is capable of discriminating the variety and historical specificity of their uses».

Following the attacks on the United States in September 2001, political leaders, journalists and commentators, as well as Hollywood producers, were swift to narrate and visually represent the new dangers facing the USA. President Bush initially called for a ‘crusade’ against international terrorism, and at the same time conjured up the image of the United States as a ‘cowboy nation’ determined to capture ‘terrorist mastermind’ Osama Bin Laden ‘dead or alive’. The Manichean logic used by Bush and his administration allowed the ‘gun-fighting’ nation to declare a new doctrine of «pre-emption and long-term war» (Slotkin, 1992). What President Bush seemed less eager to do, however, was to reflect on the more problematic aspects of this allusion to the ‘West’ and longstanding colonial violence against Native American communities.

The analysis illustrates the different motivations and the complexity of the journeys that led to leaving school early. Behind the truncated educational journeys of ESL there were a range of personal factors which intersect with other social conditions. Amongst the personal factors, lack of motivation and not knowing what to do were prominent causes of dropping out. Michael, now 22 years old, left school at 16. He then started a music technology course at college but gave up without gaining any qualification. Since then, he had a couple of jobs and he has been claiming unemployment benefits on and off. He is currently out of work as he was made redundant from the last job:

Researcher: «And did you have any particular hopes when you left school?»

Michael: «Sighs heavily. At the time I wasn’t one of those who thought about the future much, just sort of, not bothered about the future so I didn’t really plan ahead for anything. […] It’s just me. I was disinterested which is why I didn’t really follow up a lot of stuff… But to be honest it’s getting the motivation to do it all which, I don’t know, I just don’t really have. […] I was thinking about joining the Forces or something but I just don’t have the temperament to take orders, you know, so that was kind of… I mean now, I wouldn’t mind like, just for the money really, an electrician or some at but I didn’t get any of the qualifications when I was younger so… I’d have to save up loads of money and go back and pay loads and get in college again or something. So that’s pretty much nothing really apart from that».

Another male participant spoke about not having a goal or an interest. This lack of ambition involved not having a clear direction but rather going ahead by ‘trying things on’: «No, I’ve never really in my life never really known what I’ve wanted to do… That’s why I keep bouncing from thing to thing». Other personal circumstances, like family breakdown, living in care, getting involved with local crime and drugs addiction also marked the life trajectories of some of ESLs in our sample. Shana is now 21 years old she was expelled from school at 15, she does not have any qualifications and she has never worked. She has been living in care since the age of 14 and she had issues with drug addiction, and alcohol: «I moved away (from home) when I was 14, into care. I think that’s when I got kicked out of school».

One of our youngest respondents was homeless at the time of the interview sleeping in the street of Salt Lake City. He spoke about school exclusion and how having left education with no qualifications was one of the triggers of a series of events that led to him in the street. After trying college and being on and off several odd jobs, he became unemployed and he has been out of work for over a year.

These images ask hard-hitting questions about the nature and purpose not only of the Bush administration but also of the kinds of visual claims associated with ‘America’ in the aftermath of 9/11, especially by framing a particular issue or event through the depiction of implicated individuals. His cartoon published on 15 October 2002, in the aftermath of the devastating attack on local people and holidaymakers on the Indonesian island of Bali, highlights how Bell felt that the Bush administration’s long-term decision to pursue Saddam Hussein’s regime in Iraq meant that the USA’s ‘War on Terror’ was simply not making the world safer from the threat posed by Osama Bin Laden and the Al-Qaeda terror network.

*3.3. Consequences* *for the individual*

Leaving school prematurely is first a tragedy for the individuals concerned. Reviewing the literature on the effects of ESL, we arrive at the following list of consequences:

* Lowered inhibitions, leading to poor social judgment.
* Trouble concentrating.
* Loss of coordination.
* Loss of critical judgement.
* Dulled perception, especially vision.
* Mood swings.
* Reduced core body temperature.
* Raised blood pressure.
* Passing out.
* Puking.

To this list we may add low self-esteem (Prause and Dooley, 1997). In this way, Butler’s notion of performativity in the construction of gender is likely to be centred on the idea of repetitiveness of these acts, which are continuously forming gender identity that could not exist prior to these gendered acts, but rather while are being performed. Moreover, this performativity conception puts forth or implies that gender is not fixed, but fluid, or as Groening (1999) describes «free-floating», so changeable since it is a social fabrication that varies amongst cultures and through time. The similarities in the music are also matched with coincidences in the story line.

*The Simpsons*, as well as in *The Jetsons* and *The Flintstones*, the initial sequence is built around the daily commute, either to or from work. A built-in self-referenciality can be found in both *The Flinstones* and *The Simpsons*, where the sequence ends when the characters rush in to sit in front of the TV to watch their favourite show. In *The Jetsons*, different musical themes, or variations of the original theme, correspond to each of the five different characters. Significantly, Jane Jetson is portrayed with the childish tune *Chopsticks*, in contrast to the cool, syncopated theme corresponding to the central character of the show, George. In the initial sequence she is also shown asking for money to go shopping, which implies that George is the provider, she the spender. These musical features, plus the visual cues, are an indication perhaps of her unsophisticated intellectual life in comparison with –and her submissive role in relation to – her husband. Wilma Flinstone is portrayed in equivalent derogatory terms: her main role apparently consists in having Fred’s fix ready so that he can drink it right away after arriving from work and on his way to the couch; all the validation she needs, in exchange for her subservient role, is that Fred kisses her on the cheek. Therefore, gender appears as a social manifestation, which follows from physical sex differences through a range of repeated acts. Groening (1999) comments that this operates structural discrimination through individuals’ daily life practices, and then originates or constructs their attitudes, which seems to create a gender hierarchy. Thus, a sort of inequality between the sexes has come to the fore; especially that every culture views man and woman through what psychologist Sandra Bem (1999) calls «the lenses of gender».

The publication of the *Bridging the Gap* report by the Social Exclusion Unit in 1999 put the plight of NEETs firmly on the political agenda (Maguire and Thompson, 2007). Reviewing a rapidly expanding body of literature on NEETS, the report highlighted the special obstacles that vulnerable young people faced. Here a short insight into *The Simpsons* technicalities.

*Characters*

The main characters are the Simpson family, who live in a fictional ‘Middle America’ town of Springfield. Homer, the father, works as a safety inspector at the Springfield Nuclear Power Plant, a position at odds with his careless, buffoonish personality. He is married to Marge Bouvier, a stereotypical American housewife and mother. They have three children: Bart, a ten-year-old troublemaker and prankster; Lisa, a precocious eight-year-old activist; and Maggie, the baby of the family who rarely speaks, but communicates by sucking on a pacifier. Although the family is dysfunctional, many episodes examine their relationships and bonds with each other, and they are often shown to care about one another. Homer’s dad Grampa Simpson lives in the Springfield Retirement Home after Homer forced his dad to sell his house so that his family could buy theirs. Grampa Simpson has had starring roles in several episodes.

*Continuity and the floating timeline*

Despite the depiction of yearly milestones such as holidays or birthdays passing, the characters do not age between episodes (either physically or in stated age), and generally appear just as they did when the series began. The series uses a floating timeline in which episodes generally take place in the year the episode is produced even though the characters do not age. Flashbacks and flashforwards do occasionally depict the characters at other points in their lives, with the timeline of these depictions also generally floating relative to the year the episode is produced. For example, in the 1991 episode *I Married Marge*, Bart (who is always 10 years old) appears to be born in 1980 or 1981. But in the 1995 episode *And Maggie Makes Three*, Maggie (who always appears to be around 1 year old) appears to be born in 1993 or 1994. In the 1992 episode *Lisa's First Word*, Lisa (who is always 8) is shown to have been born in 1984.

*Setting*

The Simpsons takes place in the fictional American town of Springfield in an unknown and impossible-to-determine U.S. state. The show is intentionally evasive in regard to Springfield’s location. Springfield’s geography, and that of its surroundings, contains coastlines, deserts, vast farmland, tall mountains, or whatever the story or joke requires. Groening (1999) has said that Springfield has much in common with Portland, Oregon, the city where he grew up. The name Springfield is a common one in America and appears in at least 29 states. Groening has also stated that he named it after Springfield, Oregon, and the fictitious Springfield which was the setting of the series *Father Knows Best*.

*3.4. Consequences for society*

Charles Montgomery Burns is the owner of the Springfield nuclear power plant and this is also symbolical of the fact that capitalism has no respect for any living creature, not even for nature itself. Whenever, the nuclear power plant appears in the series, pollution also appears as the plant lacks every single safety measure a decent plant need. As a matter of fact, the plant’s name is synonymous for radioactive pollution. Thus, the plant pollutes Springfield’s air, rivers and of course its very own residents. Mr. Burns’ poor health is largely due to his lifelong exposure to radiation. His body has absorbed radiation so much that he sometimes glows green in the dark.

Burns’ legal destruction of nature and all its living beings stands symbolical for the harm that capitalism poses on our society. In season 2, episode 4 (*Two Cars in Every Garage and Three Eyes on Every Fish*) Bart catches a three-eyed fish from the river and this causes the nuclear plant to get inspection.

**FIG. 2.** *Probability of having voted in the UK 2010 general election by level and type of qualification.*

Tables and figures to be sent separately in a single excel extension file.

Source: logistic regression analysis performed on the Citizenship education longitudinal dataset 2002-2011. The young people were aged 20 at the time of the election.

Failing to bribe the inspectors, Burns eventually decides to run for governor. He abuses Darwin’s theory of evolution and claims that the three eyed fish is a super fish and that it is tastier than regular fish (King and Auriffeille, 2013). Upon inviting him for dinner with the Simpson family, he is served the super fish but immediately spits it out, causing an immediate end to his campaign. Later, the name Blinky was given to the three-eyed fish.

Taking social background and other influences into account, Hoskins and Janmaat (2014), for instance, found that young people in England with Level 1 and 2 qualifications (i.e., those with qualifications from lower secondary) had a significantly lower chance of voting in the 2010 elections than youngsters with higher qualifications (see Figure 2). This unequal electoral participation makes democratic politics less responsive to the needs and interests of the disengaged, which may ultimately undermine the public legitimacy of democracy.

**4. UK Government Policies Dismissing Community Schools.**

Policy-makers worldwide keep creating new kinds of schools that are similar to every other kind (i.e., there is no dismantling or radical re-engineering of the concept of schools), claiming success for electoral or other reasons and then not allowing these schools to be evaluated properly. Several studies based in the US have reported evidence that attainment can be affected by the type of school attended, such as the Promise Academy charter middle school (Dolbie and Surround, 2009), Knowledge is Power Programme middle schools (Tuttle *et al*., 2010) and more general charter schools. A recent example in England is the Academies programme, started by one government in 2000, continued by the next government from 2010 and now extended to include ‘Free’ schools.

It called for a number of measures aimed at keeping young people in education, training or work (Social Exclusion Unit, 1999). The proposed measures included:

* making sure that young people have clear goals to aim for by the age of 19;
* introducing a variety of pathways in education and training, which address the needs of all young people;
* providing financial support to encourage all groups of young people to participate in education and training;
* the creation of a multi-skills support service for young people targeting those who are most at risk of underachievement and disaffection.

In response, the Labour government launched the Connexions Service, which offers advice and guidance to 13-19 year olds by means of Personal Advisors to help them get their lives on track. It also instituted the Educational Maintenance Allowance (EMA) in 2004. The EMA offered young people from low income families financial support and incentives to boost retention, participation and achievement rates in upper secondary education (Maguire and Rennison, 2005). Research looking into the effectiveness of the EMA found that since its introduction participation in Year 12 full time education (16-17 year olds) had gone up by 5.9% while the number of NEETs had diminished by 2,4% (Ashworth *et al.*, 2002). Thus, a small but noticeable positive effect of EMA was found. Other measures to incentivise NEETs to re-enter education or take up paid employment included the introduction of a variety of vocational and professional Diplomas available at different levels of qualification and the introduction of a national minimum wage for 16 and 17 year olds (Maguire and Thompson, 2007).

Originally, the Academies were set up both to stop the spiral of decline and to improve pupil results. The schools selected at the outset were among the most disadvantaged and so where they changed their intake because of Academisation, this was no threat to local levels of socio-economic segregation between schools. For example, where new Academies ended up taking a smaller share of local free school meal (FSM) eligible pupils, this meant that neighbouring schools had to take more and so the local clustering of poorer children into specific schools would reduce.

However, the Academies programme more recently has only been driven by the purported school improvement agenda, and the social justice element is now largely ignored, meaning that almost any school is eligible to convert. Private fee-paying schools, ex-grammar schools, Foundation schools and many others (including primary) have become Academies. And the even newer Free schools have been set up as Academies from fresh. All of these are clearly nothing like the most disadvantaged schools in their area and were not in anything like a spiral of decline beforehand.

This raises the very real danger of increased local SES segregation between schools, especially if the new Academies also begin to take a smaller share of FSM-eligible pupils like the early ones did. Reviewing these policies, one cannot fail to notice that they all concern 16-18 year olds. This is quite remarkable as the earlier section on trends in NEETs revealed that the proportion of NEETs in the older age group of 19-24 is much higher than in the younger group. In fact, one of the few measures that directly targeted the older age group has been widely criticised for pushing down the numbers of young people taking part in education. This was the Coalition government’s decision to raise the tuition fee to a maximum of 9000 pounds for students seeking to enter higher education in the 2012-13 academic year. Figures from the Pring and colleagues (2014) show that the number of English students enrolling in higher education has gone down by 3% from 2010 to 2014.

Interestingly, UK government policy on NEETs appears to have been developed largely parallel to and often in isolation from EU policies on early school leavers. Thus, the UK was the only country that did not adopt a national target in response to the ESL objective of the Europe 2020 Strategy. According to one study, key stakeholders in the UK (from education authorities, teachers, parents, and secondary school students, as well as practitioners working with early school leavers through NGOs and projects targeted at at-risk youth) practically all denied that the EU benchmark on early school leavers had influenced national policies on ESL (GHK, 2011). Hoskins and colleagues (2014) deplore the isolationist stance of British policy makers as they see a lot of benefits in adopting EU policies on ESL, including (1) the exchange of good practice with other European countries, (2) the acquisition of additional European funding to support national initiatives and programmes that tackle the consequences of ESL, (3) the pooling of expert resources and funding of research towards understanding and preventing ESL, and (4) ensuring that early school leavers are a policy priority. Regarding the second benefit, they note that the Department for work and pensions itself acknowledged the value of the 2007-2013 European Social Fund programme for «supporting localised, targeted provision in a way that complements existing provision, helping young people to meet the requirement to participate in education or training until their 18th birthday» (Department for work and pensions, 2014: 24). In relation to the last-named advantage, they note that in countries where national targets have been set had, such as Finland, France, Greece, the Netherlands and Spain, the Europe 2020 objective raised the policy profile of ESL.

**Conclusion**

To say that struggling Academies are doing no better than their non-Academy peers or predecessors is not to denigrate them. They are doing no worse than their peers either, with equivalent pupils. Nor does it mean that good work has not been done in and by Academies. But it does demonstrate that the programme is a waste of time and energy at least in terms of this rather narrow measure of outcomes. There is no success specific to Academies that might not also have come from straightforward increased investment in ‘failing’ schools. Of course, one can argue that the schools have been a success in maintaining numbers and reducing the proportion of disadvantaged students. And this is certainly true for two of the first three Academies, which were selected as among the most deprived schools in England.

But the programme now includes Academies that had been private or selective schools, and which had been among the least deprived in their areas. So, this is no longer a sensible way of assessing success for the programme. There are also opportunity costs. The money involved since 2002 could have been used differently – spent on refurbishing the most deprived schools or used to follow the most deprived students to whichever school they attend. The same is true for all recent new school schemes in England, such as the Specialist Schools, and will almost certainly be true for yet untested schemes like Free Schools, and their equivalents worldwide.

In addition to redefining the content of science, it is imperative to restructure and redefine the institutional *loci* in which scientific labour takes place – universities, government labs, and corporations – and reframe the reward system that pushes scientists to become, often against their own better instincts, the hired guns of capitalists and the military.

But all this is only a first step: the fundamental goal of any emancipatory movement must be to demystify and democratize the production of scientific knowledge, to break down the artificial barriers that separate ‘scientists’ from ‘the public’. Realistically, this task must start with the younger generation, through a profound reform of the educational system. The teaching of science and mathematics must be purged of its authoritarian and elitist characteristics, and the content of these subjects enriched by incorporating the insights of the feminist, queer, multiculturalist and ecological critiques.

Finally, the content of any science is profoundly constrained by the language within which its discourses are formulated; and mainstream Western physical science has, since Galileo, been formulated in the language of mathematics. Thus, a liberatory science cannot be complete without a profound revision of the canon of mathematics. As yet no such emancipatory mathematics exists, and we can only speculate upon its eventual content. We can see hints of it in the multidimensional and nonlinear logic of fuzzy systems theory; but this approach is still heavily marked by its origins in the crisis of late-capitalist production relations. Catastrophe theory, with its dialectical emphases on smoothness/discontinuity and metamorphosis/unfolding, will indubitably play a major role in the future mathematics; but much theoretical work remains to be done before this approach can become a concrete tool of progressive political praxis. Finally, chaos theory – which provides our deepest insights into the ubiquitous yet mysterious phenomenon of nonlinearity – will be central to all future mathematics. And yet, these images of the future mathematics must remain but the haziest glimmer: for, alongside these three young branches in the tree of science, there will arise new trunks and branches – entire new theoretical frameworks – of which we, with our present ideological blinders, cannot yet even conceive.

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1. The creation of federal categorical programs in the NDEA and ESEA necessitated the creation of new federal and state administrative capacities to oversee the administration of the programs and ensure compliance. [↑](#footnote-ref-1)