"Harnessing what works in eliminating educational disadvantage..."

A TALE OF TWO CLASSROOMS

Edited by
Claudia Wood
Ralph Scott

DEMOS

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Foreword: A tale of two classrooms

Claudia Wood and Ralph Scott

The education system in England and Wales has of late been subject to rapid and tumultuous reforms. These changes have affected every aspect of our education system, from school structures (with the introduction of academies and latterly free schools), to accountability (changes to the Ofsted framework and introduction of the EBacc), to the curriculum and qualifications (the shake-up of vocational qualifications and the introduction of the iGCSE).

It is too soon to establish what the impact of many of these changes will be on the quality of the education our children receive. And the experience for senior leaders and teachers has at times been bewildering. However, it is clear that 'business as usual' was not an option, with claims from leading employers that young people were not being prepared for the most basic elements of the world of work, and the UK slipping down the Programme for International Student Assessment (PISA) rankings on literacy and maths.

There are some initial signs that elements of reform are having a positive impact, particularly when considering the great strides that have been made in London to close the attainment gap between the most disadvantaged children and their peers. However, even in that case, experts suggest the evidence which can attribute these gains to specific policy interventions is patchy at best.

While the debate continues as to whether these changes related to the structure and content of our education system actually impact quality of teaching and subsequent standards, perhaps the biggest intractable problem we face is the growing attainment gap between disadvantaged pupils and their peers. So in this collection of essays, a collaboration with Durham

University, we are not just interested in attainment overall, but rather in how that attainment, and the opportunities that come with it, are distributed across society. Or to put it another way, how severe is educational inequality, and what should we do about it?

We start with a working definition of disadvantage, and a realistic expectation of what schools can do to remedy it. Higgins and Tymms provide this, demonstrating that pupils do not enter school equal: instead there are a variety of factors – including genetics, social class, quality of parenting and wealth – that impact on their attainment even before they enter the school gates for the first time.

As Stephen Gorard describes in his contribution, there is already a gap of 21 per cent between those in relative poverty and the rest even before they start school. But this continues throughout their education, such that at age 16 the gap has widened to 26 per cent, between children eligible for free school meals and others achieving five or more high passes in GCSE, or equivalent, including English and maths. The important relationship between poverty and educational disadvantage is explored in depth by Helen Barnard of the Joseph Rowntree Foundation; she finds it to be both strong and self-perpetuating.

Despite the Coalition Government's best efforts, and the introduction of the pupil premium, the attainment gap is not going away. Perhaps most disappointing of all, as Merrell, Little and Coe demonstrate, all of the activity by this Government and the previous two appears to have had very little impact in closing the attainment gap. In fact, as Demos analysis cited by Tristram Hunt in his contribution reveals, the gap has worsened by 0.3 per cent over the last year, and by 2.8 per cent overall if you exclude London.[1]

The primacy of evidence

So how do we reduce educational inequality? Fortunately, there is a growing evidence base as to what works in bridging the gap. And one reassuring policy trend has been the cross-party support for the use of this evidence in education policy and practice, with

a number of initiatives and institutions created to support this work such as the Education Endowment Foundation (EEF) and the 'What Works' centres, including the Early Intervention Foundation. The EEF's Toolkit provides policy-makers and practitioners with easily accessible evidence on what interventions are known to be reliable in providing what outcomes, and whether they give value for money.

Also in this vein, the Cabinet Office published a paper co-authored by Ben Goldacre, encouraging the use of randomised control trials (RCTs) to test the efficacy of policies. This approach is applauded by Carole Torgerson in her contribution, in which she presents a compelling case for the widespread use of RCTs when assessing educational interventions.

However, in his contribution, Sam Freedman of Teach First outlines the potential pitfalls of RCTs, particularly the risk of poor implementation, and the simplification and misinterpretation of data. But he also makes clear that they are a step in the right direction and in fact the future of a successful education system, if used by schools and education professionals to engage with the evidence and inform their practice.

Policy-makers' use of evidence on a national scale is perhaps another story. While policy decisions are increasingly founded on an evidence base, Stephen Gorard argues that some recent reforms, particularly those to school structures, go against the run of the evidence. This raises a longer standing problem, one which Demos has often grappled with: what if there is tension between popular politics and evidence-based politics, as is so often the case in a range of policy areas?

At Demos, we are currently working with four schools across England and Wales to pilot and evaluate an intervention designed to re-engage pupils who are disengaged with their education, by encouraging them to set their own targets and stick to them. It draws on our work on non-cognitive skills, or 'character', a crucial aspect of education that Tristram Hunt also emphasises in his essay. But it is also influenced by the theory of co-production, an approach which states that those using a service or affected by a policy may have insights that the experts do not.

Through this approach, by marrying evidence-based approaches to approving attainment while valuing pupils' views and insights, we hope to square the circle between expertise and experience. This collection is of one voice in making clear that the future of education policy is evidence-based, but we must also listen to the voice of the demos.

Claudia Wood is Chief Executive of Demos. Ralph Scott is Head of Editorial at Demos.

Notes

1 Demos, 'A tale of two classrooms: London results skew national picture as educational inequality on the rise', press release, Jan 2014, www.demos.co.uk/press_releases/ataleoftwoclassrooms londonresultsskewnationalpictureaseducationalinequality ontherise (accessed 13 Nov 2014).

1 Understanding educational disadvantage

Steve Higgins and Peter Tymms

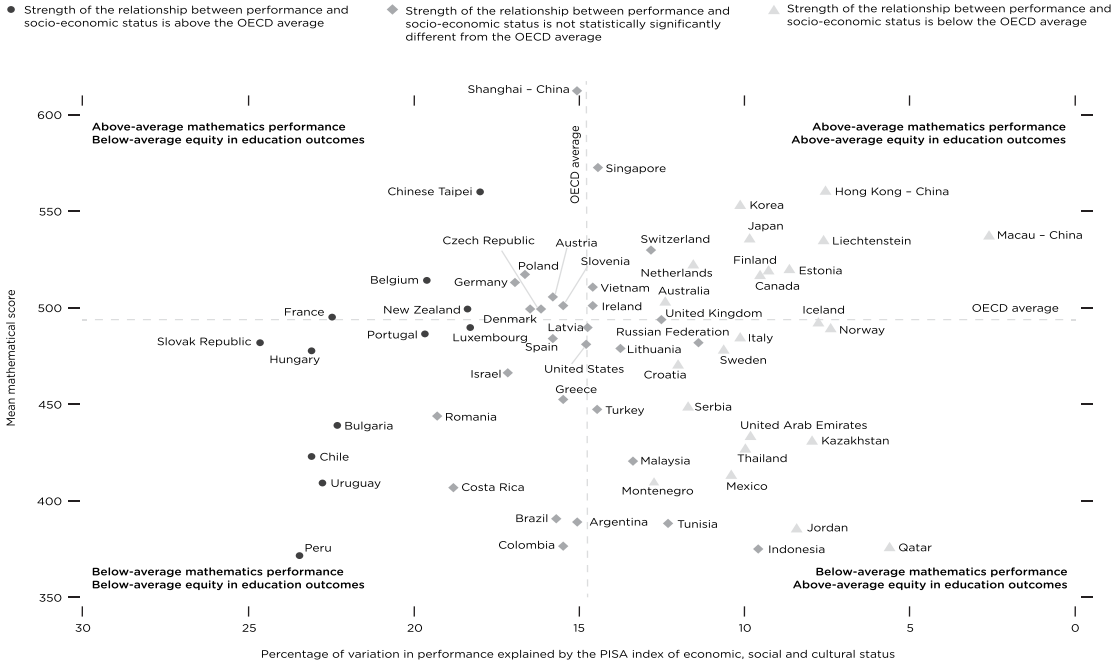
What is understood by educational disadvantage, and how can we measure it? It is a complex issue at the limits of our current economic, sociological and psychological understandings of the causes. It is, however, a global phenomenon, and will not be solved by educational solutions on their own.

There are multiple issues surrounding the origins of educational disadvantage. First, it is necessary to draw a distinction between 'difference' on the one hand and equity or unfairness on the other. Differences between people are inherent: they do not in themselves refer to the impact of the action of others either collectively or individually. People are not the same. They differ physically, emotionally, culturally, socially, linguistically, sexually, morally and indeed on anything that may in social science be called a variable.

Often this diversity is a matter for celebration, sometimes it simply exists, sometimes it is caused by culture or people, and sometimes it calls for some intervention. When such educational differences are associated with socioeconomic status they are often referred to as educational disadvantage or educational inequality.

There are two dimensions to thinking about equity as a result of this. Equity as inclusion involves ensuring that all students reach at least a basic minimum level of skills. Equity as fairness implies that personal or socioeconomic circumstances, such as gender, ethnic origin or family background, are not obstacles to educational success.[1] Therefore, equitable education systems are fair and inclusive and support their students to reach their learning potential without either formally or informally setting barriers or lowering expectations.

Figure 1.1 **The extent to which children and young people benefit from the education that they receive, PISA study 2006**



Global differences

Children and young people do not benefit to the same extent from the education that they receive from the state in which they live. This is shown in figure 1.1 (from the PISA study 2006).

Without ascribing reasons, figure 1.1 dramatically highlights how attainment levels in mathematical literacy (on the y axis at the side) vary for students at the age of 15 across countries. It also shows how educational equity (how attainment relates to economic, social and cultural status) varies across countries (along the bottom). So although there is some variation in who wins and who loses, a number of common factors are associated with the educational advantages and disadvantages.

Educational disadvantage – can we level the playing field?

First, there is what might be thought of as the resources for learning that each individual is born with. Children do not start from a level playing field but there are opportunities to level the playing field out to an extent.

Our ideas about a person's intelligence quotient (IQ) have changed radically over the last hundred years. The emergence of neuro-science and our understanding of brain plasticity and cognitive development indicate that a fixed idea of an individual intelligence is untenable.[2] There are currently believed to be two main sources of variation. The first is what might be thought of as the initial state capabilities of the individual. The second is their potential to improve on this or the extent to which an individual's inheritance and physiology are capable of increasing this learning capacity in their response to learning and experience, which also varies.

Both of these can be understood as aspects of learning capability. We differ at a physiological level in our capacity to learn, and in our capability to learn to learn. Together, these factors explain a significant proportion of the differences between people in how they respond to opportunities to learn. This variation is not usually thought of as educational 'disadvantage', but it means that we do not all start from the same base. Fifty years ago Bloom estimated that more than half

of the differences in cognitive development (as measured by IQ tests at the time) were predictable from levels of functioning by age three.[3]

From a developmental viewpoint, the early environment and experiences of a child are crucial to eventual educational outcomes. Some evidence indicates important aspects of learning start even before birth, but a general consensus is that the first three years or so of social, emotional and physical experience are when the child develops in relation to the richness and breadth of the stimulation they experience.[4]

This experience determines the pruning and cultivation of neural synapses in the child's brain, and this in turn influences the future learning capabilities of the individual. The capacity of the brain to adapt its connections to the environment and experience decreases over time, suggesting that the critical period for intellectual development is up to and including the teenage years, though this varies for different capacities such as visual cortex or our ability to discriminate sounds used in language, for example. Research indicates that other factors also influence brain plasticity including rate of maturation, hormones, diet, disease, medication, drugs and stress. This is a view of learning from a psychological or scientific perspective.

Educational disadvantage thought of in this way is a lack of stimulation and experience, and this can, at least to some extent, be remediated or compensated for by intervening to provide these experiences as early as possible or, if necessary, by providing them for older children, while the brain is still able to respond. Educational disadvantage differs from the variation in an individual's physiology, outlined above, in that we can at least attempt to intervene to level the playing field by providing early intervention and targeted support. From the point of view of brain development, the earlier the better.

Influence of generations

Parents are seen to hold a particular place in the socioeconomic status hierarchy, based on their current occupation, education and/or income. Most research looking at how an individual

responds to learning opportunities, in particular those offered through schooling or other formal learning, often uses parents' current social class as the starting point to understand the transmission of cultural values and expectations. These factors have been conceptualised from a sociological perspective through cultural reproduction theory using ideas such as Bourdieu's cultural capital or di Maggio's conception of cultural mobility.[5]

However, some people move up or down the social hierarchy and this in turn influences their children's experience. Recent research suggests that, in the US, the difference in stable middle-class and working-class educational attainment in reading and maths is about three-quarters of a standard deviation, or between ten months and a year's additional progress between these groups.[6] Figure 1.1 suggests that this figure might give us an average for OECD countries. It also suggests that social factors are more important than individual ones.

About 10 per cent of the variation in achievement in this study was associated with social class and a further 9 per cent with parenting measures, particularly the mother's educational capital and engagement with her child. Other factors after inheritance, social class and parenting need to be taken into consideration too in thinking about educational disadvantage. Research indicates that the socioeconomic status of a pupil's peers at school is also related to educational attainment by about a third of a standard deviation (four months' progress or so), with greater influence for older children.[7]

Poverty and educational disadvantage – not a straightforward challenge

The key challenge is to understand the connection between educational disadvantage and these issues so as to identify what can be achieved through educational policy and practice. A parent or family's income status or their poverty status is important, but it is not a simple causal relationship. In addition, the simple dichotomy of uptake of free school meals as a measure of disadvantage is a crude one. In the UK, from 1991 to 1996,

about 25 per cent of children aged 6–11 experienced at least 1–2 years of poverty entitling them to claim free school meals, but only 1.5 per cent were in poverty for the full six years.[8] Social class and socioeconomic status are both related to educational outcomes, but this is not a binary division between the haves and the have nots. The causal mechanisms are both individually and culturally transmitted.

The pupil premium, introduced in England in 2011, provides an 18 per cent increase in spending, on average, for each eligible secondary school pupil (£953 per pupil) and a 30 per cent increase in spending per eligible primary school pupil (£1,300 per pupil) to address educational disadvantage. The additional resource is allocated to schools for children from parents and families who have experienced income deprivation, qualifying them for free school meals over a six-year window. While this crudely identifies a target group, it does not help us understand the mechanisms by which educational disadvantage operates and is sustained, nor does it help schools target the resource effectively to overcome this disadvantage. Income poverty is neither a necessary nor sufficient condition for educational disadvantage.

The different levels of influence outlined above from the level of the individual, their early experiences and the cultural transmission of values and personal capabilities suggest that tackling educational disadvantage associated with poverty will not be straightforward. Some solutions lie within education, such as effective early years interventions, reducing the variation in impact between teachers and schools (some have a much smaller gap related to disadvantage than others) and in the meantime providing targeted intervention to support those at risk of falling behind. The cultural mediators of disadvantage are harder for schools to tackle directly as they influence people's decisions in ways that are harder to address.

Steve Higgins is a professor in the School of Education and a member of the Centre for Medical Education Research at Durham University. Peter Tymms is Professor of Education and Director of iPIPS at Durham University.

Notes

1 OECD, *PISA 2012 Results: Excellence Through Equity*, vol 2, *Giving Every Student the Chance to Succeed*, Organisation for Economic Co-operation and Development, 2013 www.oecd.org/pisa/keyfindings/pisa-2012-results-volume-II.pdf (accessed 20 Nov 2014).

2 D Garlick, 'Understanding the nature of the general factor of intelligence: the role of individual differences in neural plasticity as an explanatory mechanism', *Psychological Review* 109, no 1, 2002, p 116.

3 BS Bloom, *Stability and Change in Human Characteristics*, New York: John Wiley, 1964.

4 J Shonkoff and D Phillips (eds), *From Neurons to Neighborhoods: The science of early childhood development*, National Research Council – Institute of Medicine, National Academy Press, 2010.

5 J Roksa and D Potter, 'Parenting and academic achievement: intergenerational transmission of educational advantage', *Sociology of Education* 84, no 4, 2011, pp 299–321.

6 Ibid.

7 R Van Ewijk and P Sleegers, 'The effect of peer socioeconomic status on student achievement: A meta-analysis', *Educational Research Review* 5, no 2, 2010, pp 134–50.

8 MS Hill and SP Jenkins, 'Poverty among British children: chronic or transitory?' in B Bradbury, SP Jenkins, and J Micklewright (eds), *The Dynamics of Child Poverty in Industrialised Countries*, Cambridge: Cambridge University Press, 2001, pp 174–95.

2 The potential determinants of educational disadvantage

Stephen Gorard

Introduction to the lifelong poverty gradient

England is a generally fair country in terms of educational provision, opportunity and outcomes. Initial education is free, compulsory and universal. Expenditure on all phases of education has been growing over time as a proportion of gross domestic product (GDP), and is noticeably higher than the OECD average.[1] England has one of the lowest levels of disadvantage, and average strength in the relationship between socioeconomic background and attainment in the Programme for International Student Assessment (PISA) study.[2] Over 99 per cent of all students including those in special schools, hospitals and referral units attain a GCSE qualification or equivalent.

Over decades, the proportion of the population with any level of qualification has risen, and the gaps between social and economic groups have slowly reduced. The system has become fairer in terms of school intakes, equal opportunity legislation, child protection, student and parent voice, and participation in subsequent and higher education. It is important to recognise this and not disturb it. However, there is still a considerable 'poverty gradient' or gap between the educational attainment of poorer children and the rest. This gap, and its possible causes, is the primary focus of this chapter.

There is a considerable achievement gap (21 per cent) between children living in relative poverty and the majority even before they start school.[3] Such poverty gaps continue throughout compulsory schooling. By the age of 11, there is a gap of 13 per cent between children eligible for free school meals and others achieving the 'expected' Key Stage 2 Level 4 in reading,

writing and maths.[4] At age 16, there is a gap of 26 per cent between children eligible for free school meals and others achieving five or more high passes in GCSE, or equivalent, including English and maths.[5] The gap between children in local authority care in England and others is larger – 58 per cent in 2013.[6] Most other gaps between potentially disadvantaged students and the rest at school, such as by sex or ethnic group, tend to be smaller than the poverty gap.

The primary focus of this chapter is on disadvantage in schooling, and its relationship to attainment. This is a pragmatic focus only. There is more good evidence on this than on later education or on other outcomes from education. There ought to be better evidence on wider and lifelong issues of education. The focus is also on possible determinants of inequity that are malleable through policy or practice. The sex of an individual, for example, would not be considered the real underlying reason for any educational disadvantage, whereas sexism could be.

Finally, the focus is on what happens in formal education and the ways in which this can create or reduce disadvantage, even though much of what is learnt takes place informally. Thus, it is about how to handle poverty in schools and how schools might reduce the impact of poverty, rather than how reducing poverty through economic and social means might produce improvements for education. The chapter moves from the school system as a whole to summarise the potential role of schools, teachers, parents, individual students and possible interventions.

The school mix

There is disproportionate clustering of students within schools in terms of their personal characteristics, such as family income and ethnic origin. Clustering students with similar backgrounds in schools tends to strengthen social reproduction over generations because students in segregated poorer schools can receive poorer instruction at school, less qualified teachers, substandard resources and facilities, and generally poorer local services.[7] These disadvantages feed on each other and perpetuate problems.

Segregation by poverty tends to depress the scores of the already disadvantaged, and so increase the poverty gap in attainment.[8] In contrast, comprehensive, centralised and equitably funded school systems tend to produce both better outcomes overall and smaller attainment gaps between rich and poor children.[9] Countries with lower segregation between schools, more egalitarian systems and low achievement gaps tend to have higher average attainment and also the highest percentage of very skilled students.[10] Students' achievements then depend less on their social and cultural background.[11]

Happily, segregation between schools in England as measured by poverty or socioeconomic background has generally been reducing on a variety of indicators.[12] In England in 2014, between 25 per cent and 45 per cent of students would have to exchange schools for there to be no clustering of similar students (depending on the measure of disadvantage used). The levels and their changes over time are mostly due to factors outside education, such as the economic cycle, residential segregation, local population density, quality of local transport, and patterns of recent immigration.[13] Segregation is worsened by any policy that links strict area of residence to rules for allocating school places. If distance to school or catchment areas are used to decide most contested places then schools are more closely aligned to the cost and quality of local housing, and in turn the cost of housing is affected by the perceived popularity of the schools.

Apart from these factors, the existing research literature suggests diversity of school types as one of the chief causes of socioeconomic segregation between schools.[14] It has been claimed that the existence of an independent or private sector in schooling increases segregation, even in state-funded schools. However, most private school users in England are not close to being eligible for benefits like free school meals, so the existence of a private sector alone cannot explain the levels of poverty segregation in the state sector.

It is diversity of schooling within the state-funded sector that is the chief avoidable determinant of segregation therein. Schools catering for 11–16-year-olds are generally associated with

lower levels of post-16 participation by their students than schools catering for 11–18-year-olds, even though both types of schools are often in the same authorities. Schools that are selective by ability or attainment also segregate by socioeconomic background, because of the correlation between socioeconomic background and attainment.[15] Religious schools have much the same association, perhaps because religious parents tend to be better educated and have higher incomes than the average for their neighbourhoods.[16] Faith schools also encourage racial or ethnic segregation, because of the correlation between some faiths and ethnic origin. The introduction of new school types, such as academies and free schools, is linked to higher segregation.[17] In fact, any alternative type of school can influence the level of segregation, affecting not only its own intake but the nature of the intake to schools around it.

Controlling the school mix could be one of the most important educational tasks facing central and local government. Given that techniques such as changing the way in which school places are allocated has no obvious financial cost, and would have a zero-sum effect on attainment at worst, there is no reason not to act. A national school system, intended to have mixed intakes, should be comprehensive in nature, and without curricular specialisation, religious identity, and financial or academic selection. The same admissions criteria should apply to every school. Schools should not select by attainment or aptitude, student background or faith.

Government could offer free travel to any feasible school, not simply to the nearest available. In the short term it could offer incentives to schools taking students from disadvantaged backgrounds, ensure via banding or similar that school intakes represent the variation in the local population, and decide contested places at popular schools by lottery, not by distance or residence. Such measures would reduce social segregation between schools and slowly reduce the purchase premium on houses near desirable schools creating a backwash on residential segregation, and so a virtuous circle of inclusion and integration.

In their structure and organisation, schools can then represent to young people the kind of mixed society that we wish

to have, rather than reflecting any inequalities in the society we actually have. Schools can provide 12 years or so of something better, which may then influence wider society when young people leave and expect the same outside schools.

Differential schools

Segregated schools cause considerable social damage, but are they actually worse schools for disadvantaged pupils once that has been taken into account? At the most basic level, it is clear that attending school, as opposed to not attending school, makes some difference to attainment. However, in a national school system such as that in England, this does not mean that any one school or type of school is necessarily more effective than any other. When studies have attempted to identify a consistently superior school or type of school, they have failed. Almost all of the variation in outcomes between schools in England is explicable by the characteristics and prior attainment of their pupil intakes. With school intakes varying as much as they do at present it is not surprising that there is considerable variation between schools in their raw-score attainment, but this is largely a reflection of the challenges facing the pupils, not an indictment of the schools or their teachers.

Attempts to factor out the initial difference between school intakes and so produce fair figures for school performance include value-added progress, and contextualised value-added scores. Neither has been shown to work, in the sense of identifying consistently effective schools or types of schools. What such school effectiveness models are mostly picking up is at least partly due to variation in the raw scores and factors like missing data and small numbers,[18] and partly a very large propagated error component.[19] Because these models involve finding the differences between individual pupils' predicted scores and their actual scores, and these two sets of scores are very close, the two sets of scores tend to cancel out. What remains would include the pupils' progress scores, but it is dominated by the initial errors in each set of figures that have now 'propagated'. Reported patterns of apparent differential

effectiveness apply only to small schools or systems where considerable amounts of data are missing. Therefore value-added progress models cannot yet be used as an ethical basis for policy or practice decisions.

The quality of education available in a national school system should not depend on where a student lives. Perhaps, if it is not possible to identify differentially effective schools easily, the system is working well in that respect. Therefore, new school types or schemes for only some schools are not the way forward. The poverty gap will be decreased by reducing differences between schools, opportunities and treatments, not by exacerbating them.

The role of teachers

A common belief among policy-makers and many other commentators is that the differential effectiveness of teachers can be measured and so rewarded or penalised. Such effectiveness is almost always conceived in relation to student academic attainment at school. Good teachers are, in this view, those who teach the students who then gain the best possible test results. Large-scale international surveys have found associations between student attainment and their teachers' educational level and years of experience.[20]

However, actually identifying differentially effective teachers is not easy. Confounding factors include the background, prior experiences and initial talent of the students, the variability between alternative measures of attainment such as examining body, year, syllabus, region, mode of examination and subject, and the inconvenient fact that most students are taught by more than one teacher, perhaps including those outside the school system such as family, peers and tutors. When assessing the impact of teachers on student attainment, the propagation of initial error (as above) and the stratified nature of the confounding variables faced are such that no teacher 'effect' can be safely attributed. In order to overcome all of this 'noise' and be safely identified the differential impact of teachers on their students' attainment would have to be very considerable. Even when teachers are randomly allocated to students in an

attempt to provide secure evidence of effectiveness, the majority do not end up teaching the pupils they were allocated to.[21] As a result we still do not know whether the difference lies in the teachers or the pupils.

In fact, the whole idea may be a tautology. The definition of a good teacher is one whose pupils make good progress, and so by definition pupils making progress tend to have 'good' teachers. It is hard enough to find evidence of the differential effectiveness of entire schools or school types. As may be imagined, it is just about impossible to demonstrate that one teacher is more or less effective than any other using the same techniques as in school effectiveness. It is not possible at present to present differential teaching quality as a key or easily malleable determinant of educational disadvantage.

The role of parents

It is clear that the characteristics of parents are strongly related to the education and participation of their children. In fact, parental characteristics, education, occupations and prior experiences may be the best single predictor of children's lifelong learning trajectory.[22] All other things being equal, more-educated parents tend to have children who are more successful in education. Conversely children from families living in poverty, on average, tend to do less well than their peers.

As explained at the outset, it is useful to distinguish those factors that can be altered from those that cannot. Parents offer examples of both kinds. In the long term, reducing poverty or increasing levels of education might make a difference for subsequent generations. Indeed, there is evidence from some countries and studies that the correlation between family background characteristics and achievement gaps at school weakens with historical changes to family structures, levels of education and so on.[23] But the characteristics of the parents of a child in formal education today are more fixed than malleable. So most policy and practice emphasises what can be done in the short term to improve parents' behaviour and attitudes, and so improve their children's educational outcomes.

There is very little evidence that educational outcomes for disadvantaged families will be fundamentally affected by changing parenting styles, raising parental expectations, or enhancing parental involvement.[24] They are not important causes of low attainment, or of under-representation in post-compulsory education. A fundamental problem lies in the fact that parental involvement requires voluntary activity. Programmes to promote involvement do not seem to be effective for the most disadvantaged families; indeed such programmes may even widen the gap in attainment.

Individual attributes

Overall, there is no clear evidence that intervening to change the educational attitudes of otherwise disadvantaged students will lead to enhanced attainment.[25] Given that there are other approaches that can help to overcome the poverty gradient in schools, it is clear that raising aspirations and similar is not the way for policy to go. Put another way, the stratification of educational outcomes is more likely to be structural than mental. The current evidence is that attitudes do not cause variation in attainment, and so policies and practices based on these will continue to be ineffective. Such policies also present opportunity costs, using budget that could be used for more promising approaches, and leaving the poverty gradient largely untouched for yet another generation.

Equalising interventions

Intervening to improve outcomes for a subset of disadvantaged or struggling students is fair, up to a threshold entitlement such as functional literacy, and the research evidence is that this can be effective. It could also be cost neutral or better, largely because so many interventions are currently taking place that just do not work. In addition to the dead-ends outlined above, these include the use of technology in itself, and extra schooling in holidays, weekends and evenings.[26] The money and effort

saved in abolishing these could be diverted to developing and sharing the few initiatives that have more promise.

There are a number of other possible interventions, including the following, that could be targeted fairly at helping potentially disadvantaged students:

- making schools as uniform as possible
- offering schools 'incentives' for taking in students from disadvantaged backgrounds (such as the pupil premium in England)
- using incentives for rewarding the components of improvement such as attendance and behaviour
- adult mentoring for struggling students
- some targeted literacy and numeracy catch-up programmes

So far, successful trials have shown benefits from programmes such as Reading Recovery, Switch-on Reading and Accelerated Reader especially for disadvantaged pupils.[27] As the results of these trials are implemented they will be increasingly reflected in the Education Endowment Foundation pupil premium toolkit,[28] which will therefore gain in accuracy, range of solutions, and measures of cost. However, none of these is a magic bullet. These trials represent the best, and therefore the most ethical, kind of evidence we have at present to deal with this generation of pupils, but the real solution starts at the top. We need a cross-administration agreement that the school system is a national one, and it should be treated accordingly. From this, much of the rest follows.

Conclusion

In summary, the aggregate scores and qualifications for students from less elevated social classes, and those living in poverty and in some deprived areas, are considerably lower than average. This is despite a system set up purportedly to prevent this. There is perhaps no more important issue facing education and society today.

Understanding the reasons for the poverty 'gradient' is particularly relevant for policy and practice in order to find appropriate approaches to help reduce it. Considerable activity is being undertaken to improve educational outcomes for disadvantaged children and thus close the gap – but there is currently little systematic attempt to see if any of this works.

The situation demands a better approach, both practically and ethically. Practitioners and policy-makers need to take much more notice of decent research and development that can help them achieve this simple goal of creating a fair education system. And more urgently and crucially, researchers need to change what they do and start providing the kind of evidence that practitioners and policy-makers can use safely. This means caring more about finding the correct answers to their research questions than about what those answers are, and having greater concern about the design of research.[29] How to overcome disadvantage in education is a clear causal question. It needs to be treated as such.

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Notes

1 OECD, 'Education at a glance: OECD indicators 2012: United Kingdom', 2012, www.oecd.org/unitedkingdom/EAG2012%20-%20Country%20note%20-%20United%20Kingdom.pdf (accessed 15 Nov 2014).

2 E Knowles and H Evans, 'PISA 2009: how does the social attainment gap in England compare with countries internationally?', Dept for Education, 2012, https://www.gov.uk/government/uploads/system/.../DFE-RR206.pdf (accessed 15 Nov 2014).

3 DfE, 'The proportion of children achieving a 'good level of development' in the Early Years Foundation Stage profile by free school meal eligibility', EYFSP impact indicator 27a, Dept for

Education, 2013, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/293704/EYFSP_Impact_indicator_27a.pdf (accessed 15 Nov 2014).

4 DfE, 'Attainment gap at age 11 between free school meal pupils and their peers', impact indicator 7, Dept for Education, 2013, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/293661/KS2_Impact_indicator_7_v2.pdf (accessed 15 Nov 2014).

5 DfE, 'Attainment gap at age 16 between free school meal pupils and the rest', impact indicator 8, Dept for Education, 2013, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/293662/KS4_Impact_indicator_8_v2.pdf (accessed 15 Nov 2014).

6 DfE, Statistical First Release: Outcomes for Children Looked After by Local Authorities in England, as at 31 March 2013, SFR 50/2013, 2013.

7 D Harris and J Williams, 'The association of classroom interactions, year group and social class', *British Educational Research Journal* 38, no 3, 2012, pp 373–97.

8 V Boliver and A Swift, 'Do comprehensive schools reduce social mobility?', *British Journal of Sociology of Education* 62, no 1, 2011, pp 89–110.

9 European Group for Research on Equity in Educational Systems, 'Equity in European educational systems: a set of indicators', *European Educational Research Journal* 4, no 2, 2005, pp 1–151.

10 M Alegre and G Ferrer, 'School regimes and education equity: some insights based on PISA 2006', *British Educational Research Journal* 36, no 3, 2010, pp 433–61.

11 G Schutz G, H Ursprung and L Wobmann, 'Education policy and equality of opportunity', *Kyklos* 61, 2008, p 2.

12 S Gorard, R Hordosy and BH See, 'Narrowing the determinants of segregation between schools 1996–2011', *Journal of School Choice* 7, no 2, 2013, pp 182–9.

13 S Gorard, C Taylor and J Fitz, *Schools, Markets and Choice Policies,* London: RoutledgeFalmer, 2003.

14 A Lindborn, 'School choice in Sweden: effects on student performance, school costs and segregation', *Scandinavian Journal of Education* 54, no 6, 2010, pp 615–30.

15 R Harris, 'Geographies of transition and the separation of lower and higher attaining pupils in the move from primary to secondary school in London', *Transactions of the Institute of British Geographers*, 2012.

16 R Allen and A West, 'Why do faith-based schools have advantaged intakes? The relative importance of neighbourhood characteristics, social background and religious identification amongst parents', *British Educational Research Journal* 37, no 4, 2011, pp 631–55.

17 S Gorard, 'The link between academies in England, pupil outcomes and local patterns of socio-economic segregation between schools', *Research Papers in Education* 29, no 3, 2014, pp 268–8.

18 S Gorard, R Hordosy and N Siddiqui, 'How stable are "school effects" assessed by a value-added technique?', *International Education Studies* 6, no 1, 2013, pp 1–9.

19 S Gorard, 'Serious doubts about school effectiveness', *British Educational Research Journal* 36, no 5, 2010, pp 735–66.

20 L Wößmann, 'Schooling resources, educational institutions and student performance: the international evidence', *Oxford Bulletin of Economics and Statistics* 65, no 2, 2003, pp 117–70.

21 T Kane et al, *Have We Identified Effective Teachers? Validating measures of effective teaching using random assignment*, MET Project, Bill & Melinda Gates Foundation, 2013, www.metproject.org/downloads/MET_Validating_Using_Random_Assignment_Research_Paper.pdf (accessed 15 Nov 2014).

22 T Tverborgvik et al, 'Intergenerational educational mobility in Denmark', *Scandinavian Journal of Educational Research* 10, 2012.

23 L Hedges and A Nowell, 'Black–white test score convergence since 1965' in C Jencks and M Phillips (eds), *The Black–White Test Score Gap*, Washington DC: The Brookings Institution Press, 1998, pp 149–82.

24 S Gorard and BH See, *Overcoming disadvantage in education*, London: Routledge, 2013.

25 S Gorard, BH See and P Davies, *Do Attitudes and Aspirations Matter in Education?: A review of the research evidence*, Saarbrucken: Lambert Academic Publishing, 2011.

26 BH See and S Gorard, 'Improving literacy in the transition period: a review of the existing evidence on what works', *British Journal of Education, Society and Behavioural Sciences* 4, no 6, 2014, pp 739–54; N Siddiqui, S Gorard and BH See, 'Is a summer school programme a promising intervention in preparation for transition from primary to secondary school?', *International Education Studies* 7, no 7, 2014, pp 125–35.

27 S Gorard, N Siddiqui and BH See, 'An evaluation of the "Switch-on Reading" literacy catch-up programme', *British Educational Research Journal*, Aug 2014.

28 EEF, 'Toolkit', Education Endowment Foundation, nd, http://educationendowmentfoundation.org.uk/toolkit (accessed 15 Nov 2014).

29 S Gorard, *Research Design: Robust approaches for the social sciences*, London: SAGE, 2013.

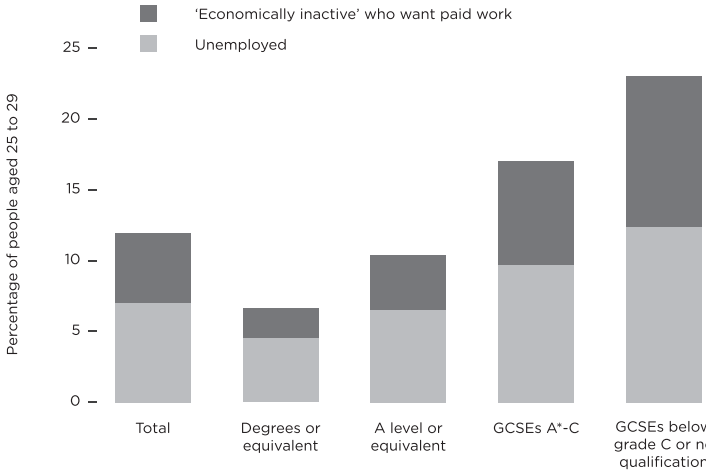
3 What drives educational inequality, and how do we get rid of it?

Helen Barnard

Over the last 25 years there has been a modest reduction in the differences in educational achievement between children from richer and poorer backgrounds. However, the gap is still very wide. In 2012, 35 per cent of children on free school meals gained five A*–C grades at GCSE (including maths and English), compared with 62 per cent of other children. There is little sign of the radical improvements in the attainment of children from poorer backgrounds that are needed to make a real dent in poverty. Differences in attainment between children from different socioeconomic backgrounds are far greater than those related to gender or ethnicity. We should not forget about the specific issues facing pupils from some ethnic minority groups, nor should we ignore the different experiences of girls and boys. But the biggest inequalities are based on income and social background, and these are a major driver of the stubbornly high levels of poverty in the UK.

There are several reasons to worry about the low educational attainment of many children who grow up in poverty, including impacts on health and social participation. Perhaps the most important is the effect on those children's opportunities in the job market. This directly affects their chances of living in poverty in later life, and their children's chances of growing up in poverty. As figure 3.1 demonstrates, adults with low qualifications are much more likely to be unemployed. The lower a young adult's qualifications, the more likely they are to be lacking but wanting paid work. A quarter of those aged 25–29 with low or no qualifications lack but want work.

Figure 3.1 **The relationship between qualifications and employment among those aged 25–29**

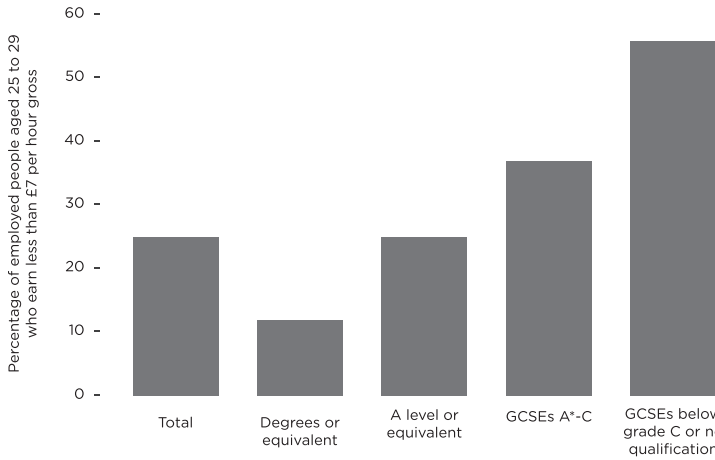


Source: Labour Force Survey, ONS; the data is for 2010, UK, updated March 2011

While in work, the lower a young adult's qualifications, the more likely they are to be low paid, as figure 3.2 demonstrates. They are likely to have less access to training and development and are more likely to have insecure jobs.[1] Half of all employees aged 25–29 with low or no qualifications are low paid.

Around two-thirds (66 per cent) of children in poverty now live in working households. Three-quarters of those are in households where at least one adult works full time. Low pay is now a more important factor in working poverty than working low numbers of hours.[2] When a young person leaves education with no or low qualifications it is much more difficult for them to gain qualifications later which will help them in the labour market. We need better routes for adults to improve their qualifications, but getting it right first time for children growing up in poverty is vital.

Figure 3.2 **The relationship between qualifications and low pay among those aged 25–29**



Source: Labour Force Survey, ONS; the data is for 2010, UK, updated March 2011

What drives educational disadvantage?

Educational disadvantage starts very early. By age five, 48 per cent of children eligible for free school meals achieve a 'good level of development' (according to the government's school readiness measure), compared with 67 per cent of other children.[3] By age 11, 60 per cent of children on free school meals achieve the expected level of attainment, compared with 79 per cent of those not on free school meals.

Breaking these patterns is so difficult because children living in poverty are often disadvantaged in many aspects of their lives. We may have universal, free schooling, but family income still makes a big difference to children's access to it. Children from better off families tend to go to better schools because their parents can afford to live near to those schools. Children from richer backgrounds are also more likely to have

private tuition, even if they go to state schools. One survey suggested that 31 per cent of children from better off families receive private tuition, compared with 15 per cent from poorer families – unsurprisingly since a private tutor costs around £22 per hour.[4] In the early years, children from poorer backgrounds are less likely to attend good quality childcare or early education, as there is far less good quality childcare available in poorer areas than richer ones.[5]

Children and parents who live in poor quality or overcrowded housing have worse physical and mental health. They are more likely to move house frequently, which has a very negative impact on children's attainment. Educational resources such as a computer and a room of one's own are expensive. Poverty also affects families through stress and a higher risk of depression, making it much more difficult for parents to support their children's education.

In addition to financial and economic disadvantages, some children from poorer backgrounds are also disadvantaged by what is termed a lack of 'cultural and social capital'. There is little evidence that there is a general 'culture of low aspirations' among low income families. The Millennium Cohort Study shows that the mothers of seven-year-olds have almost universally high aspirations for them – for example, 97 per cent of both poorer and richer mothers say they want their child to go to university.

However, there is evidence that children and parents from poorer backgrounds develop lower expectations as children grow older.[6] They may still aspire to higher education and professional jobs, but their faith in their ability to achieve those ambitions is eroded. This can arise from a combination of factors: lower achievement at school so far, a lack of social networks to provide knowledge and encouragement about how to achieve such goals, and a labour market with high numbers of low skilled jobs and limited opportunities to use qualifications to progress from those to better work. In addition, where parents themselves have not had good experiences in education, and have no or low qualifications, they may have limited knowledge, confidence and skills in helping their children in education, for instance reading to them and helping with homework.

How can we improve the prospects of children in poverty?

Educational disadvantage has multiple drivers, and therefore needs to be tackled on many fronts. The evidence suggests that improving the incomes of families in poverty can have a significant effect on children's cognitive development and school achievement.[7] Increasing access to good quality childcare and early education should be a central part of any strategy to improve the education of children from low income backgrounds. Alongside this, we should equip more parents to support children's development at home by playing, reading and talking to them. Improving the quality of jobs and the ability of low income families to access them would reduce poverty in both the short and long term. However, schools can have an extremely significant effect on raising the attainment of low income children, even if these wider improvements are not yet in place.

In 2013, 17 per cent of schools achieved a level of attainment for their free school meal pupils which was above the national average for all pupils. The gap in attainment between free school meal pupils and other pupils varies greatly between areas and schools, with some schools closing it all together. The challenge is to achieve these kinds of results across the whole country, with every school taking the most effective action to close its own attainment gap.

Since the 1980s, there has been a strong focus on school systems – the types of schools that exist and how children enter them. Increasing parental choice and school autonomy have been the mechanisms advocated by politicians from all sides to improve children's education. However, our review of the links between poverty and primary and secondary education found little robust evidence that either parental choice or school autonomy are effective ways of improving the educational attainment of children from low income backgrounds. Investing in particular school types or structures per se appears to bring little return in improvements to these children's attainment. Experience and evidence so far does not lead us to believe that an increase in the numbers of academies, free schools or faith schools, or in the degree of parental choice, would improve the educational prospects of children from disadvantaged backgrounds.

A more promising avenue may be to focus on teachers. The performance of teachers is much more varied than that of schools, and children from disadvantaged backgrounds are disproportionately affected by the quality of teaching they receive. For pupils from poorer backgrounds, a very effective teacher enables them to make 1.5 years' progress in one year; with a poorly performing teacher they make only half a year's progress over the same time.[8] By contrast, 'average' students make a year's progress with poor teaching and 1.4 years' progress with highly effective teaching.

We should place more emphasis on ensuring that highly effective teachers are teaching children from low income backgrounds. The Teach First programme has had positive effects, but is small in scale compared with overall numbers of teachers in schools. Expanding the programme would be beneficial, but we also need much better continuing professional development for all teachers, as this can be one of the most effective ways of improving children's education. The provision of continuing professional development is currently inconsistent and rarely given the prominence it deserves in debates about closing the attainment gap.

The levels of resources that schools have are significant; increased resources can lead to better results. The pupil premium has the potential to make a difference, but only if the resources are used to take action that is supported by detailed analysis of pupils' needs, and external evidence about what works. We need to ensure that schools across all areas have the right support, networks and expert advice to enable them to analyse their own needs and make evidence-based judgements about the best approaches to meeting them.

There is a growing body of evidence about the impact of different teaching methods on attainment for low income pupils. Approaches supported by the evidence include: phonics, giving effective feedback, one to one or small group teaching, mastery or individualised learning, 'learning to learn' strategies and using technology effectively.

Children from poorer and disadvantaged backgrounds are more likely to have behavioural problems which can affect their

education. Supporting families to tackle these early is important, as are school-based approaches which are 'authoritative'. This involves combining high standards with warmth, communication and understanding, and emphasising positive reinforcement of good behaviour.

The role of the curriculum is significant, but less well understood. Children from poorer backgrounds often have reduced access to subjects and qualifications which have higher value in subsequent education and the labour market. The early choices that children make in Britain also tend to exacerbate inequalities between children from different backgrounds (and between girls and boys). This is starting to be addressed through the introduction of compulsory maths and English to the age of 18 and greater use of better quality apprenticeships. However, there are still great concerns about the quality and complexity of qualifications for those who do not follow the traditional academic route of A-levels and university.

Where do we go now?

Reducing educational disadvantage has always been a dauntingly broad mission. A great deal of time and energy has been spent on reforming school structures, with little evidence of a great return in improved results for poorer children. Based on our current knowledge, there are three issues which deserve to be at the top of any secretary of state for education's list of priorities:

- improving the quality and professional development of the whole teaching workforce and making sure that the best teachers are attracted to work with children from low income backgrounds
- ensuring that all schools have the data, skills, advice and networks to base their decisions on the best analysis and evidence available
- fostering a culture of evaluation across the education system so that it becomes standard practice for groups of schools to test and evaluate their ideas to create a better evidence base for all of them to draw on

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Notes

1 K Schmuecker, *Future of the UK Labour Market*, York: Joseph Rowntree Foundation, 2014.

2 Social Mobility and Child Poverty Commission, *State of the Nation 2013: Social mobility and child poverty in Great Britain*, 2013, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/292231/State_of_the_Nation_2013.pdf (accessed 13 Nov 2014).

3 Ibid.

4 'Londoners most likely to pay for extra tuition as demand remains high', press release, Sutton Trust, 6 Sep 2013, www.suttontrust.com/newsarchive/londoners-likely-pay-extra-tuition-demand-remains-high/ (accessed 20 Nov 2014).

5 Policy Exchange, *Quality Childcare: Improving early years care*, 2013, www.policyexchange.org.uk/publications/category/item/quality-childcare-improving-early-years-childcare (accessed 20 Nov 2014).

6 C Carter-Wall and G Whitfield, 'The role of aspirations, attitudes and behaviour in closing the educational attainment gap', York: Joseph Rowntree Foundation, 2012.

7 K Stewart and K Cooper, *Does Money Affect Children's Outcomes?: A systematic review*, York: Joseph Rowntree Foundation, 2013.

8 Sutton Trust, 'Improving the impact of teachers on pupil achievement in the UK', London: Sutton Trust, 2011, www.suttontrust.com/wp-content/uploads/2011/09/2teachers-impact-report-final.pdf (accessed 13 Nov 2014).

Further reading

This essay draws on two evidence reviews funded by the Joseph Rowntree Foundation as part of the development of an anti-poverty strategy for the UK.

Raffo C et al, *Adult and Tertiary Education and Poverty: A review*, Manchester: University of Manchester, 2014.

Sullivan A et al, *Primary and Secondary Education and Poverty Review*, London: Institute of Education, University of London, 2014.

4 Is the attainment gap among primary-aged children decreasing?

Christine Merrell, John Little and Robert Coe

Raising attainment across a system, particularly for children from disadvantaged backgrounds, is challenging and the performance of successive governments in this regard is not widely understood. This was clearly exemplified in the late 1990s and early 2000s, when the serving government claimed that as a result of their initiatives there had been a rapid rise in attainment among 10–11-year-olds (measured at the end of primary school, or Key Stage 2). These claims contradicted a wide body of evidence about the standards over time, which suggested that standards of reading in primary schools have remained fairly consistent since the 1950s, and that standards in maths have only very gradually improved over the same period.[1] It has now been acknowledged that the rise was far more modest than first reported.

Approaches taken by successive governments to raise attainment

Following their election to power in 1997, the new Labour Government pledged to improve educational provision with the aim of reducing the impact of poverty and social deprivation in England. A raft of initiatives was rapidly introduced. The continuing high national priority of providing good quality childcare and education in the early years was a significant area of focus in the Education Act 2002.[2] The act introduced the Foundation Stage for children aged three to five, coinciding with an entitlement to free part-time early education for all children in England from three years old. The Foundation Stage was later extended to cover birth to five years.

A further initiative introduced by the Labour administration was Sure Start. This was delivered through local programmes, each intended to be tailored to the context and needs of the area. Sure Start offered a wide range of services, which were intended to improve the wellbeing, attainments and life chances of all children from birth to four years old in each area, and to support their families. By 2004, there were over 500 local programmes, which aimed to reach almost half a million children living in disadvantaged areas.

A national evaluation of Sure Start in 2008 found that, despite variation in implementation, there were positive impacts on some outcomes including improved home learning environments and better social development of three-year-olds.[3] However, there has been criticism of Sure Start. In 2007 Rutter argued that local programmes differed from previous studies which had found benefits on which they were based. Rutter identified issues with the diversity of the programmes and their implementation, and limitations with the evaluation.[4] Raffo et al also criticised Sure Start: 'These interventions have been undertaken in a piecemeal fashion and so far have had only a very partial impact in breaking the link between poverty and poor educational attainment.'[5]

The Children Act 2004 further extended the Government's commitment to wellbeing as an essential prerequisite to achievement through the introduction of Every Child Matters.[6] This was aimed at providing legislation for the development of integrated support for every child, whatever their background or circumstances, to be healthy, stay safe, enjoy and achieve, make a positive contribution, and achieve economic wellbeing.

More recently, in 2011 the Coalition Government introduced the pupil premium fund. Schools were given £400 for each child entitled to receive free school meals and for each child who had been looked after for six months or longer. The eligibility criteria were expanded in 2012 and the funding available per child was increased in 2013 to £900 per pupil. This was to enable schools to fund additional provision for eligible pupils with the aim of closing the attainment gap.

The impact of these initiatives

If the large-scale initiatives of the past 15 years have enhanced children's learning, particularly those living in deprived neighbourhoods, there should be evidence of this at primary school. The Centre for Monitoring and Evaluation at Durham University has collected data about children's early reading and maths development on entry to school in a consistent way for many years, collecting detailed information about each child's level of development, thus forming a baseline from which progress can be measured.

Merrell and Tymms investigated the early reading and maths development of children starting school between 2001 and 2009, and concluded that there were no significant changes.[7] The analysis presented here extends the research to offer a perspective on children's reading and maths attainment in primary school over time and whether or not there has been any change for those who come from disadvantaged areas.

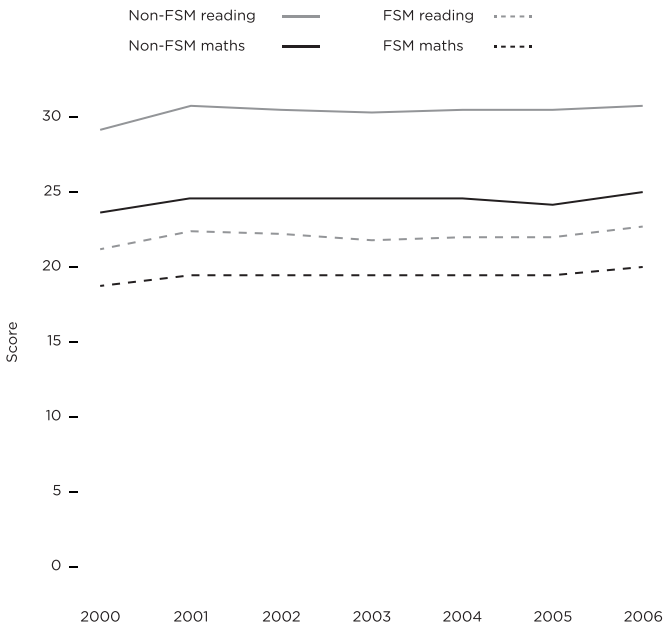
Information about the pupils involved in the analysis, including the number of pupils entitled to free school meals, mean age on entry to school, percentage of males, and English as an Additional Language (EAL) is listed in table 4.1.

Table 4.1 **Details of pupils included in research by Merrell and Tymms into early reading and maths development of children starting school in England between 2000/01 and 2006/07**

Academic year	Number of matched pupils in sample	Number of pupils entitled to FSM	Males (%)	Mean age at test	Number of pupils with EAL
2000/01	48,552	7,963	51.65	4.6	3,352
2001/02	67,966	10,470	50.7	4.6	4,594
2002/03	65,225	10,429	50.69	4.58	4,373
2003/04	35,479	5,855	50.47	4.59	2,295
2004/05	58,568	10,745	50.4	4.59	4,585
2005/06	58,829	10,441	50.55	4.59	5,298
2006/07	54,615	9,487	50.98	4.6	5,708

Source: Merrell and Tymms[8]

Figure 4.1 **PIPS baseline assessment mean scores for pupils included in research by Merrell and Tymms into early reading and maths development of children starting school in England between 2000/01 and 2006/07**



The baseline assessment scores of children who started reception in the 2000/01–2006/07 academic years are plotted in figure 4.1. The assessment used was Performance Indicators in Primary Schools (PIPS), which is part of the suite of school monitoring systems run by the Centre for Evaluation and Monitoring at Durham University. The mean scores from all children in each cohort are plotted, and then a separate line for the mean scores of children entitled to free school meals. The scores are remarkably stable over time, as previously reported by Merrell and Tymms,[9] and in the present analysis we can see that the scores of the children entitled to free school meals are

consistently lower than those of their peers when they start school in England.

Further analysis was undertaken to investigate the link between home background and attainment up to the end of primary school. Entitlement to free school meals was used as a proxy for level of disadvantage. The outcome measures were maths and English at the end of Key Stage 2. While direct comparison of standards in maths and English cannot be made, the analysis suggests that entitlement to free school meals is associated with significantly lower attainment in both at the end of Key Stage 2. In other words, after taking account of children's reading and maths development at the start of school, their mother tongue, sex and age, those from more deprived backgrounds made significantly less progress in primary school.

The differences in performance between children entitled to free school meals and their peers appeared to remain consistent, and overall there was little evidence to suggest that it is closing over time for either maths or English. On average, children who were entitled to free school meals started school with lower scores in reading and maths than their peers and this trend persisted to the end of primary school. This finding was consistent across the academic years investigated.

Implications

While there are limitations to the samples of children and schools in these analyses, some increase in the PIPS baseline assessment scores would surely have been expected over time if initiatives to close the gap were having an impact.

As acknowledged earlier, making improvements on a large scale is difficult. Researchers have warned about a reduction in the efficacy of educational interventions delivered in optimal environments when they are scaled up to community-based programmes.[10] Despite good intentions and several billion pounds being spent, it seems that there is still much to improve. Progress is being made in the area of conducting more rigorous research and evaluation of 'what works' in education in England, with one example being the work of the Education

Endowment Foundation. However, rigorous research and evaluation of educational interventions are only the start; we need to consider mechanisms to embed research findings into practice and policy effectively.

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Notes

1 P Tymms, 'Are standards rising in English primary schools?', *British Educational Research Journal* 30, no 4, 2004, pp 477–94; P Tymms and C Merrell, 'Attainment, standards and quality' in R Alexander (ed), *Children, their World, their Education: Final report and recommendations of the Cambridge Primary Review*, London: Routledge, 2009.

2 HM Government, *Education Act: An Act to make provision about education, training and childcare*, HMSO, 2002.

3 National Evaluation of Sure Start, *The Impact of Sure Start Local Programmes on Three Year Olds and their Families*, Nottingham: DfES Publications, 2008.

4 M Rutter, 'Sure Start local programmes: an outsider's perspective', in J Belsky, J Barnes and E Melhuish (eds), *The National Evaluation of Sure Start: Does area-based early intervention work?*, Bristol: Policy Press, 2007.

5 C Raffo et al, *Education and Poverty: A critical review of theory, policy and practice*, York: Joseph Rowntree Foundation, 2007.

6 *Every Child Matters*, presented to Parliament by the Chief Secretary to the Treasury, Cm 5860, London: The Stationery Office, 2003, https://www.education.gov.uk/consultations/downloadableDocs/EveryChildMatters.pdf (accessed 15 Nov 2014).

7 C Merrell and P Tymms, 'Changes in children's cognitive development at the start of school in England 2001–2008', *Oxford Review of Education* 37, no 3, June 2011, pp 333–45.

8 Ibid.

9 Ibid.

10 J Belsky, 'Effects of child care on child development in the USA' in JJ v Kuyk (ed), *The Quality of Early Childhood Education*, Arnheim: Cito, 2006, pp 23–32; E Zigler and SJ Styfco, 'Epilogue' in NF Watt et al (eds) *The Crisis in Youth Mental Health: Critical issues and effective programmes*, vol 4, Early intervention programmes and policies, Westport CN: Praeger, 2006, pp 347–71.

5 How can policy close the attainment gap?

Tristram Hunt

The return of social justice

Not all that long ago it was received Westminster wisdom that Michael Gove was on a successful 'personal crusade' to rescue poor children from having their opportunities dictated by their social circumstances. Drawing on his own quietly remarkable life story – not to mention his prodigious journalistic gifts – the former education secretary was routinely able to convince even stern critics of his passion, sincerity and integrity. To his supporters, meanwhile, such qualities were usually viewed as unique if not revolutionary:

Michael Gove has two principles that define his mission for education in Britain. The first is that the teachers are there to serve the pupils. The second is that the same opportunities should be open to children from poorer families that are enjoyed by the wealthy.[1]

It takes only a passing acquaintance with the history of the Labour movement to show that it too possesses these principles in rich abundance. From William Lovett and the Chartist schools, through to the Workers' Educational Association, William Morris and the Clarion clubs, the trade union movement (an oft overlooked source of social mobility and educational advancement for the working classes), Antony Crosland's comprehensives and Andrew Adonis's sponsored academy programme, we have long harnessed the emancipatory force of education in pursuit of our own historic crusade for social justice and equality of opportunity.

Nevertheless, blinded by his 'distinctive' virtues and an undeniably frenetic pace of reform, the public policy substance

of Michael Gove's programme largely escaped sustained scrutiny throughout the early years of his tenure. Despite the Department of Education absorbing the oversight of close to 5,000 schools and around 50 new powers being consolidated in the role of secretary of state, his structural reforms were widely reported as an enormous transfer of power away from the state.

Meanwhile, the idea that his policies were socially just and progressive became, in SW1 at least, a blithely accepted bromide for David Cameron's supposed modernisation of the Conservative Party. That an insulted teaching profession was in open revolt and a leading, traditionally more circumspect headteachers' union had passed a vote of no confidence motion on those policies in May 2013 was airily brushed off as the inevitable, 'vested interest' squealing that always accompanies challenging reform.

It is this backdrop that explains why it is not excessively overstating the case to suggest that Demos's analysis of attainment gap data in January this year completely transformed the tenor of the education debate. As well as a series of high profile free school failures, such as the Al-Madinah Free School in Derby and now closed Discovery New School in Crawley, it arrived hot on the heels of three damning reports on the state of English education.

First, came the OECD report on adult skills which found that, almost uniquely, England's young people had poorer standards of literacy and numeracy than older generations.[2] Then came Alan Milburn's Social Mobility and Child Poverty Commission, which suggested that social mobility has utterly ground to a halt.[3] Finally, the OECD's respected Programme for International Student Assessment (PISA) international comparison results showed there had been a relative stagnation in the achievement of our 15-year-olds in reading, science and maths.[4]

But arguably it was Demos's revelation that the attainment gap between socially disadvantaged pupils and their better off peers was now increasing that did most to shatter the lazy consensus that Coalition education policies were benefitting poorer children.[5] And in doing so it placed questions of

social justice and the educational underperformance of disadvantaged children at the heart of the public policy conversation once more.

Excellence and opportunity for all

Unsurprisingly, given our values, history and ideology, ensuring we have an education system that delivers excellence and opportunity for all young people is the driving motive of the Labour Party's education agenda for and beyond the 2015 general election.

We understand that for the first time in a century, the unwritten contract between generations, what Ed Miliband has called the 'Promise of Britain', which states that through hard work and education the next generation will do better than the last one, risks being broken. Indeed, arguably the alienation and apathy which so blights the contemporary political outlook derives a great deal of its power from an inchoate but deep-seated frustration with our broken economic model. Power, opportunity and wealth are all concentrated in far too few hands, while living standards remain stubbornly disconnected from headline GDP growth. This is far from a new phenomenon – median wages for low and middle income groups stagnated in 2003, long before the financial crash.

What is more, it seems pretty clear that economic strength in the twenty-first century will increasingly be defined by the quality of a nation's human capital rather than by its territorial endowments, natural resources or the sheer size of its labour force. According to a 2012 report by management consulting firm McKinsey, there are currently 95 million low skill jobs that will no longer be required by the end of the next parliament. However, there will be a 40 million global shortage of high skilled workers.[6] That is a big prize for social mobility yet a 'business as usual' approach, either economically or educationally, will be woefully inadequate at winning this race. Labour's 'race to the top' vision of a high-wage, hi-tech, high-innovation economy that works for all represents the only credible long-term aspiration for Britain. And growing our skills

base through improving the attainment of all our young people, whether on vocational or academic pathways, is an absolutely crucial component of our broader economic ambitions, particularly for disadvantaged groups where our long tail of educational underperformance continues to wag hardest.

Seventy years of the Butler settlement

It is highly unlikely that Labour will be afforded the same level of credit as Michael Gove simply for possessing noble intentions. Therefore, in 2015, the Labour Party will seek to deliver opportunity and educational excellence for all by focusing on what our economy needs most and what the evidence tells us works best: a high-quality, high-aspiration vocational education system, and a determined focus on raising the status, elevating the standing and lifting the standard of teaching in this country.

We are under no illusions that either of these aspirations will be easily delivered. Indeed, both tasks represent something of a radical departure from the last 70 years of English education reform. Because although the 1944 Education Act – which celebrated its 70th anniversary this summer – is indisputably the pivotal progressive moment within our educational history, its One Nation promise (the act began with Disraeli's famous quote 'upon the education of the people in this country the fate of this country depends') was never fully realised. Worse than that, generation after generation of education reformers have interpreted its lessons incorrectly – in both theory and practice.

First, in theoretical terms, the dream of the tripartite schools system seemed to embed something deep within the reform psyche of English educationalists, which placed a primacy on reorganising school structures at the expense of improving the quality of teaching. Grammar schools, voluntary aided schools, direct grant schools, technical schools, secondary moderns, comprehensives, grant-maintained schools, sixth form colleges, city technology colleges, sponsored academies, converter academies, free schools – the victory of this structural impulse has been total. And while it would be wrong to say there have not been some successes, it is difficult to argue against the

idea that this compulsion has diverted attention from what all the evidence suggests makes the biggest difference to children's achievement: raising the quality of teaching.

Second, in practical terms, the failure to realise fully the technical school route led to 70 years of systemic neglect in vocational education. The Education Act was supposed to prepare Britain for a new and imminent post-war industrial settlement. As Rab Butler, the act's chief architect, spelt out in the House of Commons in March 1944:

Compared to our competitors, friends and enemies, we shall be a small country when this war is over and we shall depend more than anything else on the skill of our people. We must concentrate upon producing the most highly-skilled technologists the world can show.[7]

But it never happened. Even at their peak, technical schools never catered for more than 2 per cent of English pupils. And this in turn is the reason for our abject failure, down the generations and across the parties, to deliver equal educational opportunity and excellence to what Ed Miliband has called 'the forgotten 50 per cent' – those young people, often from disadvantaged backgrounds, who do not pursue the traditional academic learning route from A-levels through to university.

A 2015 Labour Government is determined to put right this historic failing by:

- driving up the quality of apprenticeships by guaranteeing level 3 status and a minimum two years' training
- introducing technical baccalaureate for 16–19-year-olds based on rigorous vocational qualifications, a work experience placement, and studying English and maths to 18 (which would be compulsory for all in an academic setting too)
- accrediting only the highest performing further education colleges as new 'institutes of technical education' licensed to deliver these gold standard routes

A world-class teacher in every classroom, studio and workshop

However, any serious, broad-based strategy for tackling educational disadvantage must begin with improving the quality of teaching. There are many components common to high performing education systems – outstanding leadership, collaboration between institutions, a culture of high expectations, demanding qualifications, rigorous curricula and the correct balance between professional autonomy and effective accountability. It is naive to think that social factors, such as poverty, background and cultural attitudes towards education do not also play a significant role. But the research evidence on raising standards within schools is unequivocal: teaching quality makes the biggest difference. As Michael Barber and now Andreas Schleicher of the OECD are fond of saying, 'No education system can exceed the quality of its teachers.'

Yet what makes improving teaching quality so crucial to the Labour Party is that it is also the surest way to deliver on our social justice mission. Because the evidence also shows that the importance of teaching quality is even more pronounced for children from disadvantaged backgrounds. Research from the Sutton Trust and the London School of Economics suggests that without social capital or parental input to fall back on, teacher quality can make as much as a year's difference to the learning progress of disadvantaged children.[8] And the report earlier this year by the Education Select Committee into the underperformance in white working-class boys and girls reinforces those findings.[9] That is why the defining educational mission of a Labour Government would be to make sure we have a world-class teacher in every classroom, studio or workshop – a highly qualified, self-motivating and dedicated professional workforce that reflects on the evidence and continually enquires about its own craft and practice.

Clearly, a first step in achieving this goal will be to end immediately the Government's policy of allowing unqualified teachers into the classroom permanently. It is remarkable that David Cameron's signature action on this most vital of public policy agendas is to make England the only country in the world

other than Bangladesh to allow schools to hire permanent unqualified teachers.

However, qualified teacher status is only the bare minimum we should expect – it is the correct place for a teacher to begin their professional development, but it absolutely must not be the end. What is more, the traditional policy response that focuses exclusively on reforming initial teacher training and attracting new high-quality graduates to the profession will not bring about the step change we need if we are to compete in the global educational arms race.

Professor Dylan Williams of the Institute of Education has suggested that if we could immediately raise the quality of new entrants to the profession so that all trainees were at a higher level than the lowest performing 33 per cent currently, then even after 30 years this would only result in one extra student per class passing an exam every three years. Instead, our focus needs also to be on improving teacher quality in teachers already in the profession, what he calls the 'love the one you're with strategy'.[10]

A Labour Government would reverse the Coalition Government's policy on unqualified teachers and make sure we are preparing high calibre graduates properly for the pressures of the classroom. It would also support the establishment of a Royal College of Teachers, introduce new high-status career routes to make sure we retain the best teachers in the classroom, and expect teachers to undertake regular professional development throughout their careers and revalidate their expertise at regular intervals.

Our vision is of a profession-led, school-driven community-focused education system built on principles of challenge, collaboration and cohesion. We believe that a revalidation policy can contribute to this by stimulating supply and demand of high-quality professional development; ensuring teachers keep their skills, knowledge and practice up to date; and helping to future-proof the education system by allowing for quicker dissemination of technological or pedagogical innovations into the classroom.

This is because the Sutton Trust and London School of Economics research also highlighted that if we could just raise the performance of the least effective teachers already in the system merely to the average, then England would rank in the top five education systems in the world in reading and maths. This tantalising prospect and our social justice commitments are driving the Labour Party to think about new ways of improving teacher quality across the board.

Embracing character education

To truly deliver educational excellence and opportunity for all, our reform agenda will have to encompass much more – from reinvigorating Sure Start, establishing directors of school standards to ensure accountability and oversight at a local level, reviving careers guidance, re-coupling AS- and A-levels, to implementing a 'broad and balanced curriculum' as a criterion for Ofsted inspection.

Moreover, our long-term vision is to build on the Tech Bacc and move towards a qualifications framework that binds all learning routes together and places a greater emphasis on nurturing our young people's character, resilience and broader wellbeing.

It will be difficult to systemise – particularly when we want to chart a course away from the top-down, target-driven, exam-obsessed, managerial performance culture that has permeated our education system in recent years – but the arguments of American academics such as Professor James Heckman and Angela Duckworth that 'non-cognitive' character skills such as motivation, self-control, curiosity and grit represent the final frontier in educational disadvantage, and that they can be successfully nurtured, are extremely compelling.

Also persuasive is the work of Professor Avner Offer at Oxford University (highlighted by Demos's report *Building Character* in 2009), which persuasively argues that the 'flow of novelty' in contemporary society is so strong that children need higher levels of commitment, discipline and self-control to make sure their long-term wellbeing is not repeatedly sacrificed on the

altar of short-term gratification.[11] Therefore, make no mistake: a Labour Government will take character education extremely seriously – our children's wellbeing may well depend on it.

Yet while Labour will place no caps on our long-term vision, we must also be pragmatic in our promises. And it is improving the quality of teaching and delivering vocational excellence that are the pressing priorities to create an education system that raises standards, spreads power and opportunity to disadvantaged communities, and begins to close that rising attainment gap.

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Notes

1 A far from untypical *Times* leader: see 'Comprehensive education', leader, *The Times*, 12 Jun 2013, www.thetimes.co.uk/tto/opinion/leaders/article3788802.ece (accessed 13 Nov 2014).

2 OECD, *OECD Skills Outlook 2013: First results from the survey of adult skills*, Organisation for Economic Co-operation and Development, 2013, http://skills.oecd.org/OECD_Skills_Outlook_2013.pdf (accessed 13 Nov 2014).

3 Social Mobility and Child Poverty Commission, *State of the Nation 2013: Social mobility and child poverty in Great Britain*, 2013, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/292231/State_of_the_Nation_2013.pdf (accessed 13 Nov 2014).

4 OECD, *PISA 2012 Results in Focus: What 15-year-olds know and what they can do with what they know*, Organisation for Economic Co-operation and Development, 2014, www.oecd.org/pisa/keyfindings/pisa-2012-results-overview.pdf (accessed 13 Nov 2014).

5 Demos, 'A tale of two classrooms: London results skew national picture as educational inequality on the rise', press release, Jan 2014, www.demos.co.uk/press_releases/ataleoftwoclassrooms londonresultsskewnationalpictureaseducationalinequality ontherise (accessed 13 Nov 2014).

6 R Dobbs et al, *The World At Work: Jobs, pay, and skills for 3.5 billion people*, 2012, www.mckinsey.com/insights/employment_and_ growth/the_world_at_work (accessed 13 Nov 2014).

7 R Butler, *House of Commons Debates,* 23 Mar 1944, vol 398, col 1086, http://hansard.millbanksystems.com/commons/1944/ mar/23/clause-40-schemes-of-further-education (accessed 15 Nov 2014).

8 Sutton Trust, 'Improving the impact of teachers on pupil achievement in the UK', London: Sutton Trust, 2011, www.suttontrust.com/wp-content/uploads/2011/09/2teachers-impact-report-final.pdf (accessed 13 Nov 2014).

9 House of Commons Education Committee, *Achievement in Education by White Working Class Children*, first report of session 2014–15, HC 142, 2014, www.publications.parliament.uk/pa/ cm201415/cmselect/cmeduc/142/142.pdf (accessed 13 Nov 2014).

10 D Williams, 'Teacher quality: why it matters, and how to get more of it', paper presented to Spectator 'Schools Revolution' conference, London, Mar 2010, www.dylanwiliam.org/Dylan_Wiliams_website/Papers.html (accessed 13 Nov 2014).

11 See A Offer, *The Challenge of Affluence: Self-control and well-being in the USA and Britain since 1950* (Oxford: Oxford University Press, 2006); J Lexmond and R Reeves, *Building Character: The effects of early years parenting on children's life chance*, London: Demos, 2009.

6 Experiments in education: the key to tackling educational disadvantage?

Carole Torgerson

Cause and effect

Most evidence for the relationship between educational, social, health and welfare outcomes and disadvantage comes from studies using observational or correlational designs. For instance, we know that there is a strong association between educational outcomes and social class or income gradients. Similarly, we know that in the UK, on average, white working-class boys are the least likely group to gain good qualifications compared with any other social or ethnic group.

While correlational designs produce data that demonstrate interesting relationships or associations, it is perilous to base major social policy changes using the assumption that correlation means causation. Even if correlation and causation were the same (as they are in some instances), this knowledge in itself is singularly unhelpful for some policies as we cannot change social or ethnic make-up.

Rather, what is required are, first, an understanding of the nature of the limitations of data produced by correlational or observational studies for producing the kind of evidence we need to impact on the correlation between deprivation and education outcome in order to tackle disadvantage; and, second, a programme of carefully designed and rigorously conducted studies, which can produce the kind of data that establish a cause and effect relationship – experiments or randomised controlled trials (RCTs).[1]

Experiments or randomised controlled trials

The first large-scale RCTs among humans were undertaken in the areas of education and social welfare. The Cambridge-Somerville experiment in 1930s US identified adolescent boys who were at high risk of criminal behaviour and randomly assigned them to receive either 'normal' care plus additional social care provided by social workers and psychiatrists or to receive 'normal' care only, and then followed them up to measure short- and long-term outcomes.[2] Similarly, in the 1980s, a sample of truanting school children in Leeds was randomly assigned either to receive social worker support or not to receive it and then followed up to compare school attendance and criminal behaviour outcomes in both groups.[3]

Both of these experiments, although separated in time and geographical location, had 'negative' outcomes. They both showed that the intervention of interest led to significantly worse outcomes for those participants assigned to it, compared with 'normal' practice. This is an important point: had the experiments not been undertaken, then a potentially 'harmful' intervention may have been rolled out to large numbers of children and young people.

It is probably fair to say that most policies designed to alleviate social disadvantage are not first tested for effectiveness using a RCT design. As a consequence, it is almost certain that some policies will make a problem worse, some will have no effect and a few may be of benefit. Without using randomisation in the research design, we cannot differentiate between those policies that do work and those that do not. What is certain is that significant volumes of public expenditure may be wasted on ineffective social programmes.

Although RCTs are sometimes criticised for being expensive, the cost of not undertaking them may be immeasurably greater. For instance, Sure Start is a large and expensive programme, which was aimed at trying to address social disadvantage and was introduced by Gordon Brown in the last Labour Government. When it was being piloted, researchers and academics advising the government on the design of the study to evaluate its effectiveness, argued strongly that randomisation should be used in the design of the experiment,

with disadvantaged geographical areas of the country being the unit of assignment.[4]

The Government felt that, as with so many new policies, it would be unethical to deprive the most disadvantaged areas of the country of the intervention. Consequently, civil servants chose the initial areas for roll-out. The evaluation took the form of comparing the pilot areas with other areas that had not yet received Sure Start (Sure-Start-to-be areas). However, these comparator areas were on average more disadvantaged than the Sure Start areas and the quasi-experiment demonstrated both negative and positive outcomes for Sure Start.

Because randomisation was not undertaken we could not be sure whether this expensive programme had any benefit to society at all at that time. Subsequently randomised evaluations of components of this intervention were undertaken and, therefore, increased the evidence base for the effectiveness of this intervention.[5]

Randomised controlled trials in education

There is a widespread, and incorrect, view that the only place for the RCT design is in the evaluation of a new drug in medical care where people can be randomised to a placebo or active drug. As it is rarely, if never, possible to give pupils or students a 'placebo' educational intervention, some researchers conclude that other research designs with greater threats to their internal validity should be used. This view is incorrect.

The key feature of a RCT is to randomly allocate people (or schools) into two or more groups.[6] By using the process of randomisation, all groups are similar in known and unknown characteristics. This similarity at baseline means that any difference we observe after we have delivered the intervention to one of the groups will be due to the intervention and not due to any other known or unknown difference between the groups.

In pragmatic randomised trials or field experiments we seek to ensure that the intervention and the control conditions are as similar to 'real' life conditions as possible with little or no research constraints imposed on the schools or students. The

question is whether RCTs can address key issues in education that could reduce the inequality of disadvantage. Numerous RCTs have done just that.

Mixed attainment groups or not?

There is controversy as to whether children should be taught in mixed attainment groups or stratified by academic attainment. The question has not been addressed in a RCT in a UK setting so the debate will continue. However, in Kenya such a trial has taken place.[7]

In 2005, additional funds to reduce class sizes in some Kenyan schools became available such that an additional teacher could be employed, which would halve the class size. But how should the two classes be formed? They could be stratified by attainment by giving the children a test and putting the 'top' half in one class and the 'bottom' half in another. On the other hand the classes could retain an academic mix and therefore both be mixed attainment. To answer the question using a RCT design, the researchers randomly allocated 121 schools to use the policy of stratified or mixed attainment.

When the study was completed the results were interesting. Children in the 'top' half of the attainment range did better in stratified classes; however, the same was true of the children in the lower half of the attainment range. Therefore, in a Kenyan setting if you wanted to improve the educational outcomes of the children in the lower half of the attainment range then teaching them in homogeneous classes was better than using heterogeneous classes. Whether this would be effective in a UK context is unknown; however, it would be possible to evaluate such a policy using a RCT, as was done in Kenya.

Incentives for adult learners

Many adults have problems with literacy and numeracy which damages their job prospects and confines them to either long periods of unemployment or low paid jobs. Improving their education is an obvious solution. However, attendance at adult

classes is notoriously poor. One suggestion by policy-makers, which has been implemented without evidence, is to pay for attendance. In a trial to test this policy, 28 adult literacy classes were randomised: in 14 classes the students received £5 per class attended while those in the 14 control classes received nothing.[8]

The results were unexpected: the intervention group attended on average 1.5 classes a term fewer than the control classes. Consequently, paying a small amount to encourage attendance not only wastes money but reduces class attendance.

These brief examples of feasible RCTs demonstrate it is indeed possible, and in fact crucial, to use this research design in testing the effectiveness of education policies and interventions. However, unless a single trial is very large and very well conducted it is usually misleading to rely on the evidence of a single trial. Ideally, we should systematically review all of the trials in a given area to see if there is a consensus of the intervention's effectiveness.[9] A single trial may be misleading because it is either too small, has been tested in a sample that is not generalisable to the UK, or it has been inadequately undertaken. Although a good randomised trial is the highest form of evidence, there are many trials in the literature which have serious design, conduct and reporting limitations.

If we want to tackle educational disadvantage, proposed policies and interventions must be tested before implementation through carefully designed and rigorously conducted studies. Only then can we truly identify what works and does not work and make significant steps towards equality in education.

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Notes

1 CJ Torgerson and DJ Torgerson, 'The need for randomised controlled trials in educational research', *British Journal of Educational Studies* 49, 2001, pp 316–28.

2 J McCord, 'A thirty-year follow-up of treatment effects', *American Psychologist* 33, no 3, Mar 1978, pp 284–89.

3 I Berg et al, 'The effect of two randomly allocated court procedures on truancy', *British Journal of Criminology* 18, 1978, pp 232–44.

4 M Rutter, 'Is Sure Start an effective preventive intervention?', *Child and Adolescent Mental Health* 11, 2006, pp 135–41.

5 See for example J Hutchings et al, 'Parenting intervention in Sure Start services for children at risk of developing conduct disorder: pragmatic randomised controlled trial', *British Medical Journal* 334, 2007, p 678.

6 DJ Torgerson and CJ Torgerson, *Designing and Running Randomised Trials in Health, Education and the Social Sciences*, Basingstoke and New York: Palgrave Macmillan, 2008

7 E Dufflo, P Dupas and M Kremer, *Peer Effects, Teacher Incentives and the Impact of Tracking: Evidence from a randomized evaluation in Kenya*, National Bureau of Economic Research Working Paper 14475, 2008.

8 G Brooks et al, 'Is an intervention using computer software effective in literacy learning? A randomised controlled trial', *Educational Studies* 32, 2006, pp 133–43.

9 CJ Torgerson, *Systematic Reviews*, London: Continuum, 2003.

7 What does research indicate actually works in tackling educational disadvantage?

Sam Freedman

As someone who worked alongside Michael Gove for the first three years of this parliament his defenestration this summer has left me considering his legacy as secretary of state. There has been a lot of debate about free schools and exam standards but actually I think one of the most important things we did was establish the Education Endowment Foundation (EEF) in 2010.

This organisation has been in the vanguard of the burgeoning research movement in education – funding the first comprehensive series of randomised control trials in schools in this country. Staff have also worked hard to find ways to disseminate information on existing research, with particular focus on how schools should spend their pupil premium money for young people from disadvantaged backgrounds.

The EEF's most successful product is the Teaching and Learning Toolkit.[1] Launched two years ago, and downloaded by thousands of schools, the toolkit, developed by academics at Durham University, summarises the best available evidence on a wide range of interventions in a way that is accessible to busy heads and teachers. It is the best place for any practitioner to start when trying to decide what would work in improving pupils' attainment.

But as the EEF would acknowledge, it is only a starting point. The interventions are grouped in broad categories like 'behaviour interventions' and 'parental involvement'. The effect sizes associated with these interventions are averages of a wide variety of different studies on different programmes that fall under that broad grouping. Inevitably a lot of information is

lost (though there are more nuanced background papers on each intervention).

The dangers of this approach were illustrated with the toolkit entry on teaching assistants. Initially, teaching assistants were rated as having no impact. This was picked up by various newspapers, unsurprisingly given that around £4 billion a year is spent on teaching assistants. As a result the EEF was forced to put out a clarifying statement explaining that, while research suggests that on average teaching assistants do not have a positive effect on attainment, other studies showed that if deployed in certain ways teaching assistants can have a very significant impact.[2]

And this is true of most of the other interventions in the toolkit – the averages hide huge variance that will depend on the exact structure of the intervention and, crucially, the context in which it is deployed. For instance, on 'social and emotional learning' the toolkit gives a positive rating overall but an evaluation of the national Social and Emotional Aspects of Learning (SEAL) programme – which was poorly implemented in many schools – found no impact on attainment.[3]

The most important bit of context is the functionality of the school in which the intervention is being attempted. Any programme or scheme will be more successful if, for instance, the school in which it is being introduced has high-quality professional development processes in place. Nothing will work if those teachers who are supposed to be delivering the activity have not been properly trained. This is one reason for the failure of the SEAL programme. It also explains why national roll-out of Assessment for Learning largely failed despite being rated highly in the EEF toolkit – many schools simply used it in the wrong way.[4]

Last year at Teach First we commissioned a study into how some of our partner schools, which by definition contain a very high number of young people from disadvantaged backgrounds, are able to perform at a level one might expect from schools in wealthy suburban settings.[5] The sample size was not big enough to draw concrete conclusions but the findings were strongly consistent across the schools investigated.

The major difference between good schools and those that were truly outstanding, according to research consultancy Curee which carried out the work, was the quality of professional development:

In the exceptional schools group there was more evidence of a two-pronged approach: on the one hand teachers were required to participate in sustained professional learning around whole-school foci such as literacy or marking and assessment and to embed learning into practice; on the other, teachers were encouraged to identify additional and individual priorities as part of a development plan, usually (but not wholly) linked to the performance appraisal system and focused on student achievement targets.[6]

In this type of environment any new programme is more likely to succeed – but creating it requires exceptional school leadership. In my anecdotal experience the best leaders use things like the EEF toolkit as part of this type of professional development rather than simply picking things to try off the list.

The most comprehensive analysis of what makes a school leader successful comes from the New Zealand academic Viviane Robinson.[7] She found that – consistent with the Teach First and Curee research – that the most important factor across 26 different studies from around the world was 'promoting and participating in teacher learning and development'. She uses another meta-analysis of successful professional development practices to draw out the key themes that enables leaders to do this. Their success came from:

Providing extended time and using it effectively; engaging external expertise, ensuring teachers were engaged in the learning rather than assuming that success required volunteers, challenging problematic discourses especially around low expectations for students, providing opportunities to participate in a professional community that are focused on the teaching-achievement relationship, ensuring opportunities were aligned with current policy and research, and… supporting the learning by setting and monitoring targets and developing the leadership of others.[8]

This last point is a crucial one. One interesting finding from the Teach First study was that:

In exceptional schools the development and use of talent at whatever age and stage of development was seen as a major driver of quality and an issue to be pursued and nurtured with care and attention. By contrast, in [the other] schools attitudes to leadership tended to be more traditionally hierarchical and experience based.[9]

The success of the Teaching Leaders programme has also highlighted the importance of distributed leadership across heads of year and departments as well as having a strong senior leadership team.

As Robinson says, the setting and monitoring of targets is also crucial. The confrontational use of test scores for the purposes of high-stakes accountability by Ofsted and the DfE has made many in education wary of data, but there is little doubt they are vital to the successful running of a school. A recent report on the transformational success of London's secondary schools over the past 15 years cites the better use of data and increase in data literacy as a key factor (alongside, again, leadership and professional development).[10]

A number of US studies investigating the characteristics of highly successful schools in disadvantaged areas have also focused on the importance of data as a way of quickly identifying and dealing with students' issues.[11] And the tests required to provide the data are valuable in themselves. In a 2013 meta-analysis of the best research on learning from cognitive scientists Dunlosky et al found that low-stakes tests were among the most valuable tools for increasing pupil attainment.[12]

If schools meet all of these prerequisites – high-quality leadership focused on professional development of all staff and high expectations for all students and the effective and consistent use of data – then it is likely that most new interventions tried will add additional value. As both the EEF toolkit and Professor John Hattie's similar, and lengthier, list of effect sizes show, nearly everything can have some positive

benefit.[13] Moreover, it is likely that staff will be motivated to identify new interventions – which itself makes them much more likely to work because of the additional commitment this engenders – and will have a decent sense about where to look for evidence-based ideas.

This raises the question as to whether there are systematic ways to increase the number of schools that fulfil these prerequisites. Current government policy has focused on developing mechanisms for peer-to-peer support between schools through, for example, academy chains, teaching schools, national, governance and subject leaders of education, the EEF and the creation of regional commissioners responsible for brokering support.

There have been notable successes for this approach. The best academy chains like Ark, Cabot, Dixons and Harris have shown that it is possible to scale success across a group of schools in disadvantaged areas, primarily through developing leaders and teachers, insisting on high expectations and making effective use of data. A number of teaching schools have formed powerful regional alliances enabling knowledge transfer across schools. We are starting to see a shift away from a reliance on government agencies to come up with new compulsory ideas (like SEAL and Assessment for Learning) towards a more genuinely autonomous profession.

It is unlikely that any future government will reverse this general tide but the impacts of these improvement initiatives are patchy (and still waiting for proper evaluation). It may be that a peer-to-peer model or 'school-led improvement' as it is often called will require government to support some additional institutional infrastructure beyond what is already in place. For instance, it is likely that we will see this or a future government provide some initial financial backing for a college of teaching that should give the profession a platform for knowledge dissemination and peer accountability. They may also need to look at the constraining effects of some of the current high-stakes accountability – and particularly the role of Ofsted.

A genuinely school- and profession-led system would be a huge prize – something that no Western democracy of our size has achieved. And it would go a long way to ensuring children from all backgrounds get the best possible education.

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Notes

1 EEF, 'Toolkit', Education Endowment Foundation, nd, http://educationendowmentfoundation.org.uk/toolkit (accessed 15 Nov 2014).

2 EEF, 'EEF statement on teaching assistants', news release, Education Endowment Foundation, 19 Jun 2013, http://educationendowmentfoundation.org.uk/news/eef-statement-on-teaching-assistants (accessed 15 Nov 2014); R Webster, 'TAs: only a research-policy-practice trialogue will lead to evidence-based policy-making', Institute of Education London blog, 17 Jun 2014, http://ioelondonblog.wordpress.com/2014/06/17/tas-only-a-research-policy-practice-trialogue-will-lead-to-evidence-based-policy-making/ (accessed 15 Nov 2014).

3 DfE, Social and Emotional Aspects of Learning (SEAL) Programme in Secondary Schools: National evaluation, Department for Education, 2010, https://www.gov.uk/government/publications/social-and-emotional-aspects-of-learning-seal-programme-in-secondary-schools-national-evaluation (accessed 15 Nov 2014).

4 Ofsted, Assessment for Learning: The impact of national strategy support, 2008, http://dera.ioe.ac.uk/9309/1/Assessment%20for%20learning%20-%20the%20impact%20of%20National%20Strategy%20support.pdf (accessed 15 Nov 2014).

5 M Bell and P Cordingley, Characteristics of High Performing Schools, Centre for the Use of Research & Evidence in Education, 2014, www.curee.co.uk/files/publication/%5Bsite-timestamp%5D/Teach%20First%20Research%20Report.pdf (accessed 15 Nov 2014).

6 Ibid.

7 V Robinson, M Hohepa and C Lloyd, 'School leadership and student outcomes: identifying what works and why: summary of the Best Evidence Thesis', Centre for the Use of Research & Evidence in Education, 2009, www.curee.co.uk/files/publication/1260453707/Robinson%20Summary%20Extended%20Version.pdf (accessed 20 Nov 2014).

8 Ibid.

9 Bell and Cordingley, Characteristics of High Performing Schools.

10 S Baars et al, Lessons from London Schools: Investigating the success, Centre for London and Centre for British Teachers Education Trust, 2014, http://cdn.cfbt.com/~/media/cfbtcorporate/files/research/2014/r-london-schools-2014.pdf (accessed 15 Nov 2014).

11 See for example W Dobbie and RG Fryer, Getting Beneath the Veil of Effective Schools: Evidence from New York, NBER working paper 17632, 2011, www.nber.org/papers/w17632 (accessed 15 Nov 2014).

12 J Dunlosky et al, 'Improving students' learning with effective learning techniques: promising directions from cognitive and education psychology', Psychological Science in the Public Interest 14, no 1, pp 4–58, http://psi.sagepub.com/content/14/1/4.full.pdf+html?ijkey=Z10jaVH/60XQM&keytype=ref&siteid=sppsi (accessed 15 Nov 2014).

13 S Waack, 'Hattie ranking: influences and effect sizes related to student achievement', Visible Learning, 2014, http://visible-learning.org/hattie-ranking-influences-effect-sizes-learning-achievement/ (accessed 15 Nov 2014).

References

'Comprehensive education', leader, *The Times*, 12 Jun 2013, www.thetimes.co.uk/tto/opinion/leaders/article3788802.ece (accessed 13 Nov 2014).

'Londoners most likely to pay for extra tuition as demand remains high', press release, Sutton Trust, 6 Sep 2013, www.suttontrust.com/newsarchive/londoners-likely-pay-extra-tuition-demand-remains-high/ (accessed 20 Nov 2014).

Alegre M and Ferrer G, 'School regimes and education equity: some insights based on PISA 2006', *British Educational Research Journal* 36, no 3, 2010, pp 433–61.

Allen R and West A, 'Why do faith-based schools have advantaged intakes? The relative importance of neighbourhood characteristics, social background and religious identification amongst parents', *British Educational Research Journal* 37, no 4, 2011, pp 631–55.

Baars S et al, *Lessons from London Schools: Investigating the success*, Centre for London and Centre for British Teachers Education Trust, 2014, http://cdn.cfbt.com/~/media/cfbtcorporate/files/research/2014/r-london-schools-2014.pdf (accessed 15 Nov 2014).

Bell M and Cordingley P, *Characteristics of High Performing Schools*, Centre for the Use of Research & Evidence in Education, 2014, www.curee.co.uk/files/publication/%5Bsite-timestamp%5D/Teach%20First%20Research%20Report.pdf (accessed 15 Nov 2014).

Belsky J, 'Effects of child care on child development in the USA' in JJ v Kuyk (ed), *The Quality of Early Childhood Education*, Arnheim: Cito, 2006, pp 23–32.

Berg I et al, 'The effect of two randomly allocated court procedures on truancy', *British Journal of Criminology* 18, 1978, pp 232–44.

Bloom B, *Stability and Change in Human Characteristics*, New York: John Wiley, 1964.

Boliver V and Swift A, 'Do comprehensive schools reduce social mobility?', *British Journal of Sociology of Education* 62, no 1, 2011, pp 89–110.

Brooks G et al, 'Is an intervention using computer software effective in literacy learning? A randomised controlled trial', *Educational Studies* 32, 2006, pp 133–43.

Butler R, *House of Commons Debates,* 23 Mar 1944, vol 398, col 1086, http://hansard.millbanksystems.com/commons/1944/mar/23/clause-40-schemes-of-further-education (accessed 15 Nov 2014).

Carter-Wall C and Whitfield G, 'The role of aspirations, attitudes and behaviour in closing the educational attainment gap', York: Joseph Rowntree Foundation, 2012.

Demos, 'A tale of two classrooms: London results skew national picture as educational inequality on the rise', press release, Jan 2014, www.demos.co.uk/press_releases/ataleoftwoclassroomslondonresultsskewnationalpictureaseducationalinequalityontherise (accessed 13 Nov 2014).

DfE, 'Attainment gap at age 11 between free school meal pupils and their peers', impact indicator 7, Dept for Education, 2013, https://www.gov.uk/government/uploads/system/uploads/

attachment_data/file/293661/KS2_Impact_indicator_7_v2.pdf (accessed 15 Nov 2014).

DfE, 'Attainment gap at age 16 between free school meal pupils and the rest', impact indicator 8, Dept for Education, 2013, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/293662/KS4_Impact_indicator_8_v2.pdf (accessed 15 Nov 2014).

DfE, *Social and Emotional Aspects of Learning (SEAL) Programme in Secondary Schools: National evaluation*, Department for Education, 2010, https://www.gov.uk/government/publications/social-and-emotional-aspects-of-learning-seal-programme-in-secondary-schools-national-evaluation (accessed 15 Nov 2014).

DfE, 'Statistical First Release: Outcomes for Children Looked After by Local Authorities in England', as at 31 March 2013, SFR 50/2013, 2013.

DfE, 'The proportion of children achieving a 'good level of development' in the Early Years Foundation Stage profile by free school meal eligibility', EYFSP impact indicator 27a, Dept for Education, 2013, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/293704/EYFSP_Impact_indicator_27a.pdf (accessed 15 Nov 2014).

Dobbie W and Fryer RG, *Getting Beneath the Veil of Effective Schools: Evidence from New York*, NBER working paper 17632, 2011, www.nber.org/papers/w17632 (accessed 15 Nov 2014).

Dobbs R et al, *The World At Work: Jobs, pay, and skills for 3.5 billion people*, 2012, www.mckinsey.com/insights/employment_and_growth/the_world_at_work (accessed 13 Nov 2014).

Dufflo E, Dupas P and Kremer M, *Peer Effects, Teacher Incentives and the Impact of Tracking: Evidence from a randomized evaluation in Kenya*, National Bureau of Economic Research Working Paper 14475, 2008.

Dunlosky J et al, 'Improving students' learning with effective learning techniques: promising directions from cognitive and education psychology', *Psychological Science in the Public Interest* 14, no 1, pp 4–58, http://psi.sagepub.com/content/14/1/4.full.pdf+html?ijkey=Z10jaVH/60XQM&keytype=ref&siteid=sppsi (accessed 15 Nov 2014).

EEF, 'EEF statement on teaching assistants', news release, Education Endowment Foundation, 19 Jun 2013, http://educationendowmentfoundation.org.uk/news/eef-statement-on-teaching-assistants (accessed 15 Nov 2014).

EEF, 'Toolkit', Education Endowment Foundation, nd, http://educationendowmentfoundation.org.uk/toolkit (accessed 15 Nov 2014).

European Group for Research on Equity in Educational Systems, 'Equity in European educational systems: a set of indicators', *European Educational Research Journal* 4, no 2, 2005, pp 1–151.

Garlick D, 'Understanding the nature of the general factor of intelligence: the role of individual differences in neural plasticity as an explanatory mechanism', *Psychological Review* 109, no 1, 2002, p 116.

Gorard S, *Research Design: Robust approaches for the social sciences*, London: SAGE, 2013.

Gorard S, 'Serious doubts about school effectiveness', *British Educational Research Journal* 36, no 5, 2010, pp 735–66.

Gorard S, 'The link between academies in England, pupil outcomes and local patterns of socio-economic segregation between schools', *Research Papers in Education* 29, no 3, 2014, pp 268–8.

Gorard S and See BH, *Overcoming disadvantage in education*, London: Routledge, 2013.

Gorard S, Hordosy R and See BH, 'Narrowing the determinants of segregation between schools 1996–2011', *Journal of School Choice* 7, no 2, 2013, pp 182–9.

Gorard S, Hordosy R and Siddiqui N, 'How stable are "school effects" assessed by a value-added technique?', *International Education Studies* 6, no 1, 2013, pp 1–9.

Gorard S, See BH and Davies P, *Do Attitudes and Aspirations Matter in Education?: A review of the research evidence*, Saarbrucken: Lambert Academic Publishing, 2011.

Gorard S, Siddiqui N and See BH, 'An evaluation of the "Switch-on Reading" literacy catch-up programme', *British Educational Research Journal*, Aug 2014.

Gorard S, Taylor C and Fitz J, *Schools, Markets and Choice Policies,* London: RoutledgeFalmer, 2003.

Harris D and Williams J, 'The association of classroom interactions, year group and social class', *British Educational Research Journal* 38, no 3, 2012, pp 373–97

Harris R, 'Geographies of transition and the separation of lower and higher attaining pupils in the move from primary to secondary school in London', *Transactions of the Institute of British Geographers*, 2012.

Hedges L and Nowell A, 'Black–white test score convergence since 1965' in C Jencks and M Phillips (eds), *The Black–White Test Score Gap*, Washington DC: The Brookings Institution Press, 1998, pp 149–82.

Hill MS and Jenkins SP, 'Poverty among British children: chronic or transitory?' in B Bradbury, SP Jenkins, and J Micklewright (eds), *The Dynamics of Child Poverty in Industrialised Countries*, Cambridge: Cambridge University Press, 2001, pp 174–95.

HM Government, *Education Act: An act to make provision about education, training and childcare*, HMSO, 2002.

House of Commons Education Committee, *Achievement in Education by White Working Class Children*, first report of session 2014–15, HC 142, 2014, www.publications.parliament.uk/pa/cm201415/cmselect/cmeduc/142/142.pdf (accessed 13 Nov 2014).

Hutchings J et al, 'Parenting intervention in Sure Start services for children at risk of developing conduct disorder: pragmatic randomised controlled trial', *British Medical Journal* 334, 2007, p 678.

Kane T et al, *Have We Identified Effective Teachers? Validating measures of effective teaching using random assignment*, MET Project, Bill & Melinda Gates Foundation, 2013, www.metproject.org/downloads/MET_Validating_Using_Random_Assignment_Research_Paper.pdf (accessed 15 Nov 2014).

Knowles E and Evans H, 'PISA 2009: how does the social attainment gap in England compare with countries internationally?', Dept for Education, 2012, https://www.gov.uk/government/uploads/system/.../DFE-RR206.pdf (accessed 15 Nov 2014).

Lexmond J and Reeves R, *Building Character: The effects of early years parenting on children's life chance*, London: Demos, 2009.

Lindborn, A, 'School choice in Sweden: effects on student performance, school costs and segregation', *Scandinavian Journal of Education* 54, no 6, 2010, pp 615–30.

McCord J, 'A thirty-year follow-up of treatment effects', *American Psychologist* 33, no 3, Mar 1978, pp 284–89.

Merrell C and Tymms P, 'Changes in children's cognitive development at the start of school in England 2001–2008', *Oxford Review of Education* 37, no 3, June 2011, pp 333–45.

National Evaluation of Sure Start, *The Impact of Sure Start Local Programmes on Three Year Olds and their Families*, Nottingham: DfES Publications, 2008.

OECD, 'Education at a glance: OECD indicators 2012: United Kingdom', 2012, www.oecd.org/unitedkingdom/EAG2012%20-%20Country%20note%20-%20United%20Kingdom.pdf (accessed 15 Nov 2014).

OECD, *OECD Skills Outlook 2013: First results from the survey of adult skills*, Organisation for Economic Co-operation and Development, 2013, http://skills.oecd.org/OECD_Skills_Outlook_2013.pdf (accessed 13 Nov 2014).

OECD, *PISA 2012 Results: Excellence Through Equity*, vol 2, Giving Every Student the Chance to Succeed, Organisation for Economic Co-operation and Development, www.oecd.org/pisa/keyfindings/pisa-2012-results-volume-II.pdf (accessed 20 Nov 2014).

OECD, *PISA 2012 Results in Focus: What 15-year-olds know and what they can do with what they know*, Organisation for Economic Co-operation and Development, 2014, www.oecd.org/pisa/keyfindings/pisa-2012-results-overview.pdf

Offer, A, *The Challenge of Affluence: Self-control and well-being in the USA and Britain since 1950* (Oxford: Oxford University Press, 2006).

Ofsted, *Assessment for Learning: The impact of national strategy support*, 2008, http://dera.ioe.ac.uk/9309/1/Assessment%20for%20learning%20-%20the%20impact%20of%20National%20Strategy%20support.pdf (accessed 15 Nov 2014).

Policy Exchange, *Quality Childcare: Improving early years care*, 2013, www.policyexchange.org.uk/publications/category/item/quality-childcare-improving-early-years-childcare (accessed 20 Nov 2014).

Raffo C et al, *Education and Poverty: A critical review of theory, policy and practice*, York: Joseph Rowntree Foundation, 2007.

Robinson V, Hohepa M and Lloyd C, 'School leadership and student outcomes: identifying what works and why: summary of the Best Evidence Thesis', Centre for the Use of Research & Evidence in Education, 2009, www.curee.co.uk/files/publication/1260453707/Robinson%20Summary%20Extended%20Version.pdf (accessed 20 Nov 2014).

Roksa J and Potter D, 'Parenting and academic achievement intergenerational transmission of educational advantage', *Sociology of Education* 84, no 4, 2011, pp 299–321.

Rutter M, 'Is Sure Start an effective preventive intervention?', *Child and Adolescent Mental Health* 11, 2006, pp 135–41.

Rutter M, 'Sure Start local programmes: an outsider's perspective', in J Belsky, J Barnes and E Melhuish (eds), *The National Evaluation of Sure Start: Does area-based early intervention work?*, Bristol: Policy Press, 2007.

Schmuecker K, *Future of the UK Labour Market*, York: Joseph Rowntree Foundation, 2014.

Schutz G, Ursprung H and Wobmann L, 'Education policy and equality of opportunity', *Kyklos* 61, 2008, p 2.

See BH and Gorard S, 'Improving literacy in the transition period: a review of the existing evidence on what works', *British Journal of Education, Society and Behavioural Sciences* 4, no 6, 2014, pp 739–54.

Shonkoff J and Phillips D (eds), *From Neurons to Neighborhoods: The science of early childhood development*, National Research Council – Institute of Medicine, National Academy Press, 2010.

Siddiqui N, Gorard S and See BH, 'Is a summer school programme a promising intervention in preparation for transition from primary to secondary school?', *International Education Studies* 7, no 7, 2014, pp 125–35.

Social Mobility and Child Poverty Commission, *State of the Nation 2013: Social mobility and child poverty in Great Britain*, 2013, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/292231/State_of_the_Nation_2013.pdf (accessed 13 Nov 2014).

Stewart K and Cooper K, *Does Money Affect Children's Outcomes?: A systematic review*, York: Joseph Rowntree Foundation, 2013.

Sutton Trust, 'Improving the impact of teachers on pupil achievement in the UK', London: Sutton Trust, 2011, www.suttontrust.com/wp-content/uploads/2011/09/2teachers-impact-report-final.pdf (accessed 13 Nov 2014).

Torgerson CJ, *Systematic Reviews*, London: Continuum, 2003.

Torgerson CJ and Torgerson DJ, 'The need for randomised controlled trials in educational research', *British Journal of Educational Studies* 49, 2001, pp 316–28.

Torgerson DJ and Torgerson CJ, *Designing and Running Randomised Trials in Health, Education and the Social Sciences*, Basingstoke and New York: Palgrave Macmillan, 2008.

Tverborgvik T et al, 'Intergenerational educational mobility in Denmark', *Scandinavian Journal of Educational Research* 10, 2012.

Tymms P, 'Are standards rising in English primary schools?', *British Educational Research Journal* 30, no 4, 2004, pp 477–94.

Tymms P and Merrell C, 'Attainment, standards and quality' in R Alexander (ed), *Children, their World, their Education: Final report and recommendations of the Cambridge Primary Review*, London: Routledge, 2009.

Van Ewijk R and Sleegers P, 'The effect of peer socioeconomic status on student achievement: A meta-analysis', *Educational Research Review* 5, no 2, 2010, pp 134–50.

Waack S, 'Hattie ranking: influences and effect sizes related to student achievement', Visible Learning, 2014, http://visible-learning.org/hattie-ranking-influences-effect-sizes-learning-achievement/ (accessed 15 Nov 2014).

Webster R, 'TAs: only a research-policy-practice trialogue will lead to evidence-based policy-making', Institute of Education London blog, 17 Jun 2014, http://ioelondonblog.wordpress.com/2014/06/17/tas-only-a-research-policy-practice-trialogue-will-lead-to-evidence-based-policy-making/ (accessed 15 Nov 2014).

Williams D, 'Teacher quality: why it matters, and how to get more of it', paper presented to Spectator 'Schools Revolution' conference, London, Mar 2010, www.dylanwiliam.org/Dylan_Wiliams_website/Papers.html (accessed 13 Nov 2014).

Wössmann L, 'Schooling resources, educational institutions and student performance: the international evidence', *Oxford Bulletin of Economics and Statistics* 65, no 2, 2003, pp 117–70.

Zigler E and Styfco SJ, 'Epilogue' in NF Watt et al (eds) *The Crisis in Youth Mental Health: Critical issues and effective programmes*, vol 4, Early intervention programmes and policies, Westport CN: Praeger, 2006, pp 347–71.

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The education system in England and Wales has of late been subject to rapid and tumultuous reforms, affecting every aspect of it. While the debate continues as to whether these changes to the structure and content of our education system actually impact quality of teaching and subsequent standards, perhaps the biggest intractable problem we face is the growing attainment gap between disadvantaged pupils and their peers.

In this collection of essays, a collaboration with Durham University, our contributors are therefore not just interested in attainment overall, but rather in how that attainment, and the opportunities that come with it, are distributed across society. Drawing on extensive research, the authors investigate the meaning of inequality, the role of contributory factors such as poverty and parental influence, and the impact of policy.

They find that despite government's best efforts, and the introduction of the pupil premium, the attainment gap is not going away: with Demos research revealing it in fact widened this year. However, the authors within cite the growing evidence base as to 'what works' in reducing educational inequality, and significantly, its increasing use by policy makers and practitioners, as a reason to be cautiously optimistic about the future.

Claudia Wood is Chief Executive of Demos.
Ralph Scott is Head of Editorial at Demos.

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