THE FUTURE OF EDUCATION

AN ESSAY COLLECTION

Edited by
Edison Huynh

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The progressive policy think tank

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NASUWT
The Teachers' Union

BIOGRAPHIES

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Peter Hyman is co-founder and headteacher of School 21, a state-funded, non-selective school for sutdents aged 4–18 in Stratford, East London. School 21 aims to rebalance head (academic success), heart (character and wellbeing) and hand (generating ideas, problem solving, making a difference) in order to properly prepare young people for the world beyond the classroom. Before becoming a teacher, Peter worked for Tony Blair for 10 years, in roles including chief speechwriter and strategist. He was head of the prime minister's strategic communications unit between 2001–2003. Peter is author of *1 out of 10: From Downing Street Vision to Classroom Reality* (2005).

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Chris Keates is the General Secretary of the NASUWT – The Teachers' Union. She was first elected in 2004. The NASUWT represents teachers and headteachers in all sectors, from early years to further education, across the UK.

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Winnie has a DPhil from the University of Oxford, was a research fellow at the British Interuniversity China Centre, and has been visiting scholar at the Shanghai Academy of Social Sciences, Chinese University of Hong Kong, Academia Sinica, and National Chengchi University, Taiwan.

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PROFESSOR WILL KYMLICKA

Will Kymlicka is a Canadian political philosopher best known for his work on multiculturalism and animal ethics. He is the Canada research chair in political philosophy at Queen's University in Ontario, Canada, where he has taught since 1998. He is also a visiting professor in the Nationalism Studies program at the Central European University in Budapest. Will has published eight books and

more than 200 articles, which have been translated into 32 languages. His books include *Multicultural Citizenship* (1995), which was awarded the Macpherson Prize by the Canadian Political Science Association, and the Bunche Award by the American Political Science Association.

Will has a DPhil in philosophy from the University of Oxford, and a BA in philosophy and politics from Queen's University.

LIZ ROBINSON

Liz is a school and system leader, working to 'change the story' about how education is delivered in England. As headteacher of Surrey Square in Southwark for 13 years, Liz used values as a key driver to redefine the purpose of the school and radically reshape the teaching approaches. The school was judged Outstanding by Ofsted and is widely celebrated for its work, serving a highly challenged community.

As a National Leader of Education, Liz worked with many schools to develop practice and raise standards. She co-founded the International Academy of Greenwich, motivated to be part of creating a forward thinking secondary school, delivering an International Baccalaureate (IB) education.

Since September 2018, Liz has worked as co-founder and co-director of Big Education, a new organisation running schools and programmes to inspire and provoke change in the sector. She is also a trustee for the National Literacy Trust.

Liz has a particular interest in developing values-led leadership, and has worked extensively as a speaker, trainer and coach. She is passionate about asking bigger questions about what school can or should be about and finding new ways of working. As mum to two young girls, she works flexibly to manage her roles.

MARTIN ROBINSON

Martin Robinson is a teacher with more than 20 years' experience in state schools in East London, and is an education consultant with particular interests in curriculum, teaching and learning, and creativity. He is an advisor on education matters to the Royal Society of Arts (RSA). He is author *of Trivium 21c: Preparing young people for the future with lessons from the past* (2013), which sets out an argument for the importance of a liberal arts education. Martin is also involved in a project to increase teacher involvement in school organisation at the level of multi-academy trusts (MATs). He writes a blog – Trivium21c – as well as regularly writing for a range of other publications.

PROFESSOR SIR NIGEL SHADBOLT

Nigel Shadbolt is an academic and commentator who studies and writes about open data, artificial intelligence, computer and web science. Nigel is currently principal of Jesus College, University of Oxford and is professorial research fellow in the university's Department of Computer Science. He is chairman and co-founder of the Open Data Institute (ODI), which promotes the creation of economic and societal value from open data releases.

Since 2009, Nigel has acted as an information advisor to the UK Government, helping transform public access to government information, including the widely-acclaimed data.gov.uk site. He was knighted 2013 for services to science and engineering. Today, Nigel draws together multidisciplinary expertise to focus on understanding how the Internet is evolving and changing society. In particular, he is passionate about how humans and computers can solve problems together at web-scale.

FIONA WALKER

Fiona Walker has more than 30 years' experience in education, teaching at all levels from kindergarten to tertiary. Her current role is teacher-educator and principal consultant (K-12 literacy) at the Department of Education for Western Australia. In 2015, she was awarded a Churchill Fellowship and travelled extensively to develop her knowledge of neuroscience and its impact on teaching and learning. This work included interviews with numerous international leaders in the field and generated rare insights into neuroscience and cognitive psychology from an educator's perspective. Particularly interested in the potential influence of cognitive neuroscience on curriculum design, Fiona is working to build collaborative relationships between universities and schools as co-researchers.

EMMA WORLEY

Emma Worley co-founded The Philosophy Foundation in 2007 alongside Peter Worley, and is the organisation's joint chief executive. The foundation is a charity that aims to promote the use of philosophical enquiry within a variety of public sphere platforms (such as the workplace, politics and prisons). Over time, it has become centrally concerned with philosophy education in schools.

Emma has 20 years' experience of working with children. She is a visiting research associate at King's College London; president of the European Foundation for the Advancement of Philosophy for Children (SOPHIA); non-executive director of Thinking Space CIC; a board member for the London School of Economics' Centre for Philosophy of Natural and Social Science; an associate member of the 'Philosophy in Education' project. She has been recognised by the Natwest SE100 for her leadership skills, including being named as one of the first WISE 100 (top 100 Women in Social Enterprise).

Emma studied Ancient Greek Philosophy at Birkbeck, University of London. Before setting up The Philosophy Foundation she was an actor and stand-up comedian.

FOREWORD
by ANDREAS SCHLEICHER

Before the industrial revolution, neither education nor technology mattered much for most people. But when technology raced ahead of education in those times, many were left behind, causing unimaginable social pain. It took a century for public policy to respond with the ambition of providing every child with access to schooling. While that goal still remains beyond reach for some, the stakes have now risen well beyond providing 'more of the same' education.

Through the digital revolution, technology is once again racing ahead of education and those without the right knowledge and skills are struggling. That thousands of university graduates are unemployed – while British employers cannot find people with the skills they need – shows that better degrees do not automatically translate into better skills, better jobs and better lives. The rolling processes of automation, hollowing out middle-skilled jobs, particularly for routine tasks, have radically altered the nature of work. For those with the right knowledge and skills, this is liberating and exciting. In India for instance, online providers have picked up the outsourced functions of traditional corporate and public enterprises. But for those who are insufficiently prepared, it can mean joblessness or the scourge of vulnerable and insecure work: zero-hours contracts without benefits, insurance, pension or prospects.

Increased global mobility has allowed countries like the UK to draw on the world's best talent. But, like in many countries, this movement is now being put to the test. How diverse can communities become before trust erodes, social capital weakens and the conditions necessary for civil society are undermined? Angered and confused by the increasing flux of contemporary living, questions about identity and cohesion have emerged – the Brexit referendum result was partly a result of an inability to provide answers to such questions.

There is no question that up-to-date knowledge and skills in a specific discipline will always remain important. However, educational success is no longer mainly about reproducing content knowledge, but about extrapolating from what we know, applying that knowledge in new situations, and about thinking across the boundaries of disciplines. If everyone can search for information on the Internet, the rewards now come from what people do with that knowledge. In this light, the advances of big data hold much promise in terms of learning analytics.

As content knowledge continues to expand in a discipline, it is also important for students to understand the structural and conceptual foundations of that discipline rather than just the facts. This is another area where PISA has exposed important weaknesses in England's education system: while many students have learned formulas and equations, few can think like a mathematician in ways Chinese students can. Innovation and problem-solving depend increasingly on being able to bring together disparate elements and to synthesize them to create something different and unexpected – this depends on a deep rather than superficial understanding of disciplines.

And finally, England can do better to distribute human potential more equitably. This is a moral obligation but also a huge opportunity. The pace of technological, social, and cultural change makes it no longer economically viable or sustainable

to address inequalities mainly through redistribution, ie dealing with the consequences of inequities. It is far more effective to address the sources of such inequalities and these lie to a significant extent in the way in which countries develop and use the talent of their people – its education system. The core asset of our times, our citizens and their collective knowledge and skills, remains hugely undervalued and it is time to unlock it.

There is an urgent need for policymakers and educators to once again break free from short-term fixes and instead focus on the big trends that will shape the future of education. The contributions in this collection explore these major trends, and each is framed by the experience of practitioners on the ground in our separate collection *Views from the classroom*. Only when policy is aligned with the best research and the experiences of teachers can it begin to reshape an education system fit for the challenges of our times.

Andreas Schleicher is Division Head of the OECD Programme for International Student Assessment (PISA)

SUMMARY

by EDISON HUYNH

In this collection of essays, leading thinkers from the education sector and beyond have set out their views on the future of education in light of widespread technological, cultural and socio-political changes. The aim has not been to provide 'answers', but rather to draw greater attention to the questions being asked of our education system as it contends with the underlying trends impacting modern society.

Education policy has for too long been moulded by 20th century ideals and restricted by short-term thinking. With every new government, fresh policies and initiatives are enacted in quick succession without always having an eye to the bigger picture. The ideas in this collection have sought to show how much the bigger picture matters, and provide ideas on what policymakers can do to meet the challenges of tomorrow, today.

What are the challenges we face? Automation will affect roughly half of today's work activities by 2055, meaning many of the jobs that our education system is designed to prepare young people for may soon cease to exist (McKinsey 2017). Beyond the labour market, technological advances are also posing new ethical questions. And in an age of mass mobility – which will surely be likely to continue irrespective of Brexit – education will need to play a crucial role in helping to maintain social cohesion and our sense of identity.

Our rapidly changing world does, though, throw up opportunities as well as risks. Big data, for instance, when harnessed correctly through learning analytics, can help educators better identify attainment gaps – across gender, class and ethnicity – and help tackle entrenched inequalities.

The current government has sought to place social mobility at the heart of its domestic policy agenda. But it faces a real challenge in ensuring that our education system is flexible enough to enable citizens to succeed in the face of big disruptions to the way our economy and society function. It is all too easy to envisage a future where social mobility is blocked and young people fail to develop the skills, experience and knowledge they need to succeed. As Andreas Schleicher argues in his foreword, it is when societal and technological trends race ahead of education that social pains emerge. Accordingly, it is up to educators and policymakers to ensure that our education system is designed to keep pace.

The chapters in this collection together offer four key reflections on how we can rise to the challenge.

First, in light of an uncertain future, we need to empower not just schools but students themselves. Gone are the days where educators could be certain of the skills and knowledge sets that they would need to impart in order to guarantee employment and fulfilment for their students in later life. Educators should aim to empower students with the tools they need to thrive when faced with the full complexity of modern society. We should, for instance, heed Professor Shadbolt's calls for greater 'data literacy' in order for students to have 'access, skills, and control over their own data' rather than simply produce data which can then be used by Whitehall to assess their own educational outcomes. Similarly, we must

strive to find ways to ensure that students are always 'the maker' and not the 'tool' if we are to encourage authentic human creativity, as stressed by Martin Robinson.

Second, there needs to be a recognition that system-wide accountability measures can sometimes drive undesired educational outcomes and behaviours. Both Liz Robinson and Peter Hyman highlight their own experiences of operating within a 'high-stakes accountability' system which can restrict a school leader's ability to provide the holistic education required to prepare students for an ever-more complex world. While both show how it is possible to work 'split screen' – balancing the reality of the system with articulating other values that matter – this is undoubtedly an exhausting task for a teaching profession already under real strain. Faced with a potential crisis in teacher recruitment, policymakers would do well to acknowledge how values and design principles implicitly shape the education system and the behaviour of those working in it. Otherwise the system risks leaving educators in a straight-jacket, unable to move beyond assessments and league tables.

Third, policy responses to global trends should take into account the views of the workforce in a meaningful way. The voice of practitioners is too often lost when constructing policy proposals. The 'views from the classroom' accompanying each of the preceding chapters have provided insights into the practicalities of responding to future challenges. However, there is a need to ensure that these voices have the mechanisms by which to affect change. As proposed by Chris Keates, a new form of unionism could ensure that teachers' voices are articulated clearly as our education system continues to evolve.

Fourth, we need to ensure that the full potential of education to drive society and the economy forwards is realised. If the UK is to undergo democratic renewal and forge a progressive post-Brexit policy platform, we require strategic thinking, with education at its heart. While it can be tempting to find ways in which the education system should respond to big global trends individually, a piecemeal approach is insufficient. Instead, we may need something closer to what Dr King advocates – placing education within a broader national vision which can position the UK to succeed despite the uncertainties of Brexit.

Ultimately, the success of education *policy in* responding to technological, cultural and socio-political trends will determine whether our education *system* reduces or reinforces inequalities which hold back the UK's human potential.

1.
CIVICS EDUCATION IN AN AGE OF MOBILITY

by WILL KYMLICKA

Traditional conceptions of citizenship education, often tied to homogenising narratives of nationhood, are increasingly inadequate when set against the realities of diverse 21st century classrooms and societies. We need new models of citizenship education that reflect the realities of global migration.

This is a complicated task, in part because different modes of migration have different relations to citizenship. Some migrants become citizens. They are able to naturalise and thereby gain rights of membership in the political community where they reside. In traditional countries of immigration, there is a relatively clear path for some immigrants to become citizens. These immigrants are admitted as permanent residents and, having made their life in a new country, they have a right to naturalise after a period of residency and be included in 'the people' in whose name the state governs.[1]

The challenge to citizenship education in this context seems clear: we need to revise inherited conceptions of 'the people' to recognise the full diversity of all those who are members of society. Conceptions of 'the people' have historically been tied to exclusionary and homogenising narratives of nationhood, privileging majority ways of belonging while denigrating or rendering invisible minority identities and contributions. A central task of citizenship education is to replace older exclusionary ideas of nationhood with a more inclusive conception of citizenship that challenges inherited hierarchies of belonging, and which insists that society belongs to all its members, minority as much as majority. All members have a right to shape society's future, without having to deny or hide their identities. Minorities, on this view, including minorities formed through the permanent settlement of immigrants, are not 'guests', 'visitors', 'aliens' or 'foreigners', but are 'members' and 'citizens'.

This has been a long-standing goal of multicultural education. Multicultural education has been subject to waves of enthusiasm and scepticism, and I'll return to the scepticism below. But it's worth emphasising that multicultural citizenship rests on the assumption that immigrants settle permanently, become citizens, and thereby become members of 'the people'. Contemporary states are grounded in ideas of popular sovereignty: it is 'the people' who are the bearers of sovereignty, which they exercise through the state, and permanently-settled immigrants should be seen as members of 'the people' in this sense.

This is not necessarily true of temporary migrants. We do not typically think that tourists, international students, business visitors, or seasonal workers necessarily have a legitimate claim to political membership. Tourists who visit for one month, or international students who come to study the local language for six months, do not typically have a right to naturalise, or to vote in elections. They are indeed

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1   For the idea that political citizenship should track social membership, and why this entails that long-settled immigrants have a right to naturalise, see Carens (2013).

more like 'guests' or 'visitors' than 'members' or 'citizens'. As such, they are not necessarily included in conceptions of multicultural citizenship.

This is explicit in the multiculturalism policies adopted in Canada and Australia, which restrict their programming to citizens or permanent residents, and which exclude temporary workers (such as the seasonal agricultural workers who come to Canada from Mexico at harvest time). Since these groups are not citizens, and are not eligible to become citizens, they are not included under the rubric of multicultural citizenship.

To say that temporary migrants are excluded from multicultural citizenship is not to say that they lack claims of justice. They may be visitors not members, but they are human beings, and as such have basic rights. We cannot enslave visitors, subject them to torture, or treat them in ways that violate their dignity. This idea is expressed through the idiom of universal human rights, owed to all individuals in virtue of their intrinsic moral status, and one of the central tasks of education is to inculcate respect for human rights and human dignity. Given the rapid rise in various forms of temporary, circular, forced and irregular migration, it is more important than ever that students learn to respect the basic human rights of all people, including the temporary visitors in their midst, the asylum-seekers at the border, and the displaced and oppressed halfway around the world.

We might think of civics education in an age of migration as having two strands. First, there is citizenship education in the narrow sense, which focusses on how members of the people exercise their popular sovereignty. This requires some account of how a society determines who qualifies for membership, including how long-settled immigrants become members, and this arguably requires a distinctly multicultural conception of belonging. Second, there is human rights education, which focusses on an ethics of respect for human dignity, and which is inherently cosmopolitan, applicable whether or not the person is a member of our society, no matter how temporary their stay, or indeed whether they are present in the country or not.

This combination of multicultural citizenship and cosmopolitan human rights can be found in accounts of civics education around the world. From Cambodia to Canada, many educators seek to both expand our conception of national membership to acknowledge all those who have settled permanently and made their life in the country (ie we need a multicultural ethic of political membership); and simultaneously to strengthen respect for the human rights of all, even those who are just temporarily resident or whose rights are at risk in neighbouring or distant countries (ie we need a cosmopolitan ethic of human rights).[2]

While both strands are present in many countries, enthusiasm for the multicultural citizenship strand has waned. There are several factors that explain this. One is scepticism about whether national narratives of membership can ever be truly transformed in a multicultural direction. In several countries, earlier moments of openness to multiculturalism seem to have closed, and more homogenising national narratives have been reasserted (eg in the UK, France, Germany). An earlier enthusiasm about the possibility of generating a compelling multicultural conception of nationhood has faded. This pessimism seems particularly acute in the Old World countries of Europe, with their deeply embedded national identities, and some commentators have speculated that multiculturalism only works in New World countries founded as 'nations of immigrants'.

I do not share this pessimism. Embracing multicultural conceptions of nationhood may be difficult in the Old World, but it was – and still is – difficult in the New World

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2   For an overview of citizenship education around the world illustrating these dimensions, see Banks (2017).

as well. Canada today may be seen as a beacon of multiculturalism, but until the 1960s, it defined itself as a British settler society, and had racially discriminatory immigration policies and assimilationist education policies designed to maintain this self-identity. The shift towards a multicultural national identity was deeply contested, and was by no means predestined to succeed (Adams 2007). I would suggest that, notwithstanding fashionable talk of the 'death' and 'retreat' of multiculturalism in Europe, there are comparable examples of a steady shift toward multicultural nationhood.[3]

However, even if multicultural citizenship is politically feasible, it faces a second challenge. Global migration has changed in a way that makes it more difficult to distinguish 'permanent' migrants owed multicultural citizenship from 'temporary' migrants owed cosmopolitan human rights. The very distinction between permanent and temporary migration is being challenged by scholars, who argue that we are living in a world of 'super-diversity' with a multitude of legal statuses that are neither wholly temporary nor wholly permanent, but rather have varying degrees and levels of conditionality and precariousness (Vertovec 2007). This is reflected in calls to replace the old term 'age of migration' with the new term 'age of mobility'. People no longer migrate permanently from country X to country Y; rather, they move repeatedly. They may become domiciled, but do not 'settle'. And one of the consequences of super-diversity, commentators argue, is that a multicultural conception of national citizenship is increasingly obsolete (Fleras 2015). People can no longer be neatly divided into permanent 'members' and temporary 'visitors': we are all just human beings who find ourselves in a particular place at a particular moment, all subject to risks of dislocation to global economic and environmental trends, all in various states of mobility.

Both of these observations challenge the view that the best response to global migration is to combine multicultural citizenship (for members) with universal human rights (for non-members). If multicultural citizenship requires being able to identify which newcomers have settled permanently and thereby become members, then the proliferation of conditional legal statuses, and the realities of circular and temporary mobility, mean that fewer newcomers will secure the protections of citizenship. And even those fortunate few who secure legal citizenship may find that they only achieve a second-class citizenship, constantly at risk of being judged alien or inadequate according to exclusionary narratives of nationhood.

Given these trends, scepticism about multicultural citizenship is understandable. But what is the alternative? One option is to give more weight to cosmopolitan human rights, and to reduce the importance of membership rights. States may continue to restrict national citizenship to those newcomers who permanently settle, but we can try to minimise the political significance of this membership status. Even if migrant labourers are not eligible for national citizenship in, say, Austria, this should not affect their labour rights, their health care, or the education rights of their children. These should be seen as fundamental human rights, regardless of membership status. In this way, we can shrink the importance of national citizenship, and expand the importance of universal human rights. The goal is not to expand the Austrian state's view of who is a member of the Austrian nation or people, as the multicultural citizenship approach would seek, but rather to insist that national membership should not determine people's treatment across a range of important issues. The goal is not necessarily to enable them to become citizens, but rather to strengthen the rights they are owed as human beings – in effect, to reduce the price that non-members pay for their lack of political membership.

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3   See Kymlicka (2013) on the resilience of multiculturalism in many European countries.

A more radical suggestion would be to get rid of ideas of membership entirely, and to base civics education entirely on universal human rights. On this proposal, we would only recognise universal rights owed to human beings as such, without any attempt to distinguish members from non-members. We would not ask Austrian children to think about their obligations to non-members; nor would we encourage them to have a more multicultural conception of membership in the Austrian nation: rather, we would encourage them not to think in terms of membership at all.

This pure cosmopolitanism is a powerful strand in contemporary political theory, precisely because of growing scepticism that multicultural citizenship can respond to the intransigencies of nationalism or the realities of global mobility. It's worth asking, can cosmopolitan human rights education take the place of multicultural citizenship education? Can we do without a politics of membership and belonging, and rely instead on a cosmopolitan ethic of respect for humanity?

There are both pragmatic and principled objections to pure cosmopolitanism. Pragmatically, if it's difficult to ask national majorities to embrace inclusive conceptions of national membership, it seems utopian to ask them to stop caring about membership at all. There are also pragmatic worries about political stability. A cosmopolitan commitment to universal human rights tells us nothing about where political boundaries should be drawn. The Universal Declaration of Human Rights provides no guidance on whether there should be two countries in the world, or 20, or 2000, or where their internal and external boundaries should be drawn. A cosmopolitan might respond that any such boundaries should be seen as arbitrary, but it's not clear that a democracy can function if its members view their boundaries this way. A stable democratic community requires that people have a sense of belonging together. For example, Norwegians feel that it is right and proper that they form a single political community which governs its members and its national territory, and that it would be wrong and unjust if Norwegians were subdivided or annexed. If the residents of Norway did not have this sense of belonging together – if they felt that they were just a random group of individuals thrown together in a randomly-drawn territory – there would likely be interminable disputes about jurisdiction and boundaries.

And this in turn raises principled questions about whether 'nations' or 'peoples' have rights to self-determination and territorial sovereignty. Cosmopolitans tend to be dismissive of ideas of rights of self-government, but I would argue it is perfectly legitimate for the Norwegians – or the Navajo– to think of themselves as peoples with rights to self-determination, including the right to govern themselves and their national homelands, which in turn, includes the right to make choices about various streams of permanent and temporary migration.[4] If so, then we are inevitably back to ideas of membership, and to distinguishing those settled immigrants who are owed membership rights from those visitors who are owed universal human rights.

This suggests that human rights education cannot bear all the weight of civics education. Around the world, two distinct problems continually arise: some permanently-settled groups are wrongly denied their membership rights because they do not fit into the received national narrative; and other temporarily-settled immigrant groups are denied their basic human rights. Cosmopolitan human rights education addresses the latter but not the former. Educating students to respect the basic rights of all people, regardless of their membership status, is a fundamental task. But so long as democratic politics is tied up with ideas of membership and belonging, then we also need to educate students about how

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4   Lawrence and Dua (2005) argue that cosmopolitan defenses of migrants' rights to freely settle anywhere ignore indigenous rights to govern themselves and their territories.

to think about membership in an ethically responsible way, including how to critically evaluate the traditional criteria by which membership has been recognised.

This is a central task of civics education. The task is not to transcend or evade the distinction between members and non-members, but to think in a critical and ethically responsible way about the diversity of people that belong to society, and the diversity of ways in which they legitimately express that belonging.[5] Multicultural citizenship education has run into headwinds, but it remains an essential part of civics education, alongside calls for more cosmopolitan human rights education.

5   For some reflections on a new ethic of membership which recognises diverse ways of belonging and participating, see Kymlicka (2015).

2.
CHARACTER EDUCATION AND THE PROBLEMS OF MORALITY

by EMMA WORLEY

"Children are naturally prone to hanker after forbidden things"
The Tenant of Wildfell Hall, Bronte (1848)

"Now children, what should the boy do? Should he hit back or tell the teacher?"

A sea of hands are raised in the assembly, "Yes, Tina?"

"Tell the teacher."

"That's right."

Later in the playground, Tina and Sara get into a fight. Tina finds herself in the headteacher's office.

"Why did you hit your friend, Tina?"

"Because she hit me first."

"I am very disappointed Tina, especially after this morning's assembly. What was it we all agreed you should do if someone says or does bad things to you?"

"Tell the teacher..." mumbles Tina.

"Exactly, so why did you hit your friend?"

Morality and character education have always been at the heart of schooling. From school mottos and assemblies, to lessons in grit and resilience, the modern emphasis on character education is not so innovative. Schools are part of the village that raises a child, along with parents, families and friends. Through their schooling, children learn how to behave, and so develop character attributes that will stay with them as they grow older. We want to give our children the character virtues that will give them the best opportunities to flourish, but what are the virtues modern society dictates are necessary? What ethical decisions will young people face as they grow up? And how can our education system help young people to make them?

The problem illustrated in the above extract shows a common issue faced in schools and in the family home. We may tell children how to behave – and this can be repeated back to us clearly and correctly by our charges – and yet we still find them snatching, hitting, being mean and not sharing. Their *received* beliefs, those which they can recite on cue ('I must not hit'), are not their *operational* beliefs – those they use in their everyday life (Tina hitting her friend in retaliation).[6]

In Anne Bronte's *The Tenant of Wildfell Hall (1848)*, a wide-ranging discussion on character education is had between Mrs Graham and various other characters, one of whom, her brother and landlord Mr Lawrence, states that children are 'prone to hanker after forbidden things'. And this is still the case today: if we use character education to indoctrinate children there is a high possibility that they will rebel.

There are other inherent problems in the teaching of character and morality, including defining what we mean by 'good character'. The characteristics some

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6   I first encountered the idea of received and operational beliefs in Teaching Thinking (Fisher 1998)

may value, may not even be a consideration for others. Would the headteacher agree with the governors and the parents about what characteristics should be taught? The government outlined the attributes they hope schools will instill in students as part of their 'Character Education' drive back in 2015 (a £3.5 million fund was created in 2015 to boost projects developing pupils' character, and this was increased to £6 million in 2016[7]). These attributes included: perseverance, resilience and grit; confidence and optimism; motivation, drive and ambition; neighbourliness and community spirit; tolerance and respect; honesty, integrity and dignity; conscientiousness, curiosity and focus. In February 2019, the then education secretary Damian Hinds listed his own ideas of what character education should include: self-respect and self-worth, honesty, courage, kindness, generosity, trustworthiness and a sense of justice.

An agreed list cannot, however, define what a good character is. Some of these character attributes may seem like fine qualities to have, but there are possible dangerous combinations. Resilience may seem good, but you could be a resilient criminal. In his Taoist text, Chuang Tzu used the story of Robber Chih to highlight the problems with singling out virtues in this way. Robber Chih has all the virtues of a good robber: he is sage, courageous, understanding, righteous and benevolent. Similarly, we watch the Star Wars films and side with the rebels – those going against the law. We can't just teach children a list of virtues they need to develop to become successful, and a list of laws they need to follow. There needs to be scrutiny of them, they need to be probed and considered in different ways: they need to be problematised.

Setting up discussions around morality and character in the classroom can help children unpack these complex concepts and virtues, and help them to think for themselves. The Philosophy Foundation conducts philosophical enquiry in schools with children from nursery up to Key Stage 5. These sessions start with a stimulus of some kind (a story, poem, picture, video, dialogue, etc.). They then tackle an array of philosophical topics, including ethics, with the goal of helping students to problematise concepts and virtues for themselves. By doing this, children learn to see things from different perspectives, draw distinctions, come up with counter-examples and really develop a deeper understanding of the concepts under examination. Philosophical enquiry also develops their social skills, many of which can be linked to good character virtues. Students learn to listen to one another closely (co-operation), they become comfortable with confusion (resilience), and they learn to articulate their ideas clearly, or in different ways (confidence and conscientiousness) so that, together, they can develop their own understanding.

An example of a session around morality and character would be one on Plato's thought experiment about the ring of Gyges. In this story, the shepherd Gyges finds a ring that makes him invisible. Gyges goes on to use the ring to gain power by killing the king and eventually marrying the queen (although he's not wearing the ring then). The point this story is trying to persuade us of is that morality is a social construct, that without the fear of being caught people would do as they wish. Modern examples of this can be seen in CCTV footage and social media: a film was posted on social media where a man steals a wallet from someone, and once he has spotted the camera he apologises to the camera, places the wallet on the floor and helps the victim 'find' his wallet. If the camera had not been there, we presume he would have stolen the wallet without too many concerns. In the classroom, we stop at the point in the story when the ring and its powers have been discovered and begin by asking the children, 'what would you do?'

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7   Although this funding was stopped by Justine Greening after she took over from Nicky Morgan in 2017 a renewed focus on character education has recently been introduced by Damian Hinds, who has set up an advisory board to produce Gatsby-style Benchmarks for character education, and laying out five foundations for character education: sport, creativity, performing, volunteering & membership and the world of work.

Responses vary widely, and include both good actions and naughty ones. However, the point here is not to gain a list of received beliefs. We want the children to entertain doing the bad things – in fact, it is the controversial claims that will provoke the in-depth discussions we are after. This is why we ask them to write down their answers anonymously as it frees the students from saying what they think their teacher wants to hear, or what they think they should say. Once we have a list of varied, sincere responses ('I would steal money from the Queen and banks'; 'I would spy on my friends'; 'I would help people without them knowing it was me') we are then able to ask the students to consider the following question: 'what *should* you do?'. The students are then invited to think about the right and wrongs of the suggested actions – but this does not mean that they will all agree that what one *should* do and what one *would* do are the same. They recognise that there may be a difference, but they may now consider the reasons behind this disparity, and some of them do indeed rethink their former positions because of arguments formulated by their peers. You can see the received beliefs being challenged, but also being upheld, but now because of good reasoning, rather than regurgitation. My co-CEO at the Philosophy Foundation, Peter Worley, puts it like this, 'philosophy provides the conditions for children to arrive at moral insights for themselves through exploration and problematisation of the issues and values under consideration'.

This may seem a dangerous place for children to be when in the classroom: they may well bring themselves to the conclusions we would wish them to arrive at, but equally, they may not. Giving children the tools to think for themselves perhaps outweighs the danger of them not coming to the 'right' conclusions. Because how can we predict what ethical frameworks will be needed in the future? Less than 100 years ago male homosexuality was against the law, now two people of the same sex can marry. In 1916 women didn't have the vote. The UK government did not pass the Human Rights Act until 1998. In 2013, India declared whales and dolphins 'non-human persons' because of the development in the understanding of these animals, and the EU is now looking at the legal framework around robots and whether they should be considered persons. In the future, our children will have to contend with ethics around cyberspace, artificial intelligence, the environment, and continued global human interaction, as well as a whole host of things we cannot yet predict. With no ethical rules in place for the future, children will have to learn how to build them for themselves.

Another possible concern is that, if children are left to decide their own ethical framework, then they could easily fall into relativism: the idea that everyone is entitled to their own beliefs and practices, and that there is no validity or absolute truth to moral arguments. But philosophical explorations of morality do not have to fall into relativism. There is a widespread belief that, in philosophy, there are 'no right or wrong answers'. But if this were the case then doing philosophy would be a fool's game, and children would soon tire of it. Philosophy, when practiced well, is about evaluating arguments and reason, and making judgements, even if they are provisional. As long as we ask 'why?' students will formulate arguments for each other that can be tested and evaluated by the group, and re-evaluated as necessary. The pluralism of ideas within the classroom will mean, on the whole, that children provide a check on each other's ideas.

Another benefit of exposing children to different ideas in the classroom – brought in by their peers – is that this classroom helps them to see different perspectives, and so provides an important part of character and moral education. Understanding and listening to different perspectives can help build tolerance and respect. If you are developing the ability to listen with an open mind and the possibility of change, you are encouraging curiosity. If reason and good argument are central to the points under discussion then it will be necessary to consider all perspectives and their reasoning.

Friedrich Nietzsche, the German 19th century philosopher, pushed against Enlightenment thinking and argued that there was no objective truth. Instead, he developed the theory of perspectivism: that truth could only ever be seen from different perspectives. However, he also suggested that we get closer to the truth with the more perspectives we understand. This aspect of tolerance is important for morality and character education, especially as our children will need to be ready for disagreements in the future. One of the problems we encounter, as adults, is dealing with perspectives and points of view which differ from our own, increasingly demonstrated by the state of politics worldwide. Democracy is about disagreement, not consensus. But people with vastly different values must still be able to function alongside one another. Morality and character education needs to give young people the apparatus to contend with difference, and this can be done through philosophical enquiry. Philosophy allows young people to hear and evaluate different arguments and perspectives. It gives them the tools to work things out for themselves, and the confidence to disagree with their friends and colleagues, as well as to change their minds when good reasons are presented.

If we return to the classroom discussion on the shepherd Gyges, we can see that it is through the children saying controversial things that the others are inspired to respond. If one child says, 'You can do whatever you want if you can't get caught!' another may reply, 'No, because you've got to live with the guilt' and 'What if everyone did it?' or 'No, because when you steal from the shopkeeper you actually affect the shopkeeper's life, and it has a bad effect.' These children have considered why it is important to behave in certain ways, and how our actions affect ourselves and others. They have reached these insights through their own reasoning and will therefore have a more powerful motivator for moving beyond being happy simply to be told which ethical framework to follow.

One particular exchange is brought to mind, where an older student realises their actions can, and should, have consequences. We were discussing the famous 'experience machine' thought experiment, where one is invited to decide whether to 'plug in' to the machine or not. The Matrix-like machine is able, once you're plugged into it, to recreate a world of your choice, that you believe to be real though it is only a computer simulation. After some students had said that they would plug in because then they'll get to choose how life goes, one boy said, 'I wouldn't plug in, even though life will be just how I want it to be, because I won't actually be impacting on anything real. For example, if I discover a cure for cancer in the experience machine, it hasn't actually done anything good outside of my own head, but if I discover a cure for cancer in the real world then I've actually helped real people'.

What would you prefer: for your children to answer the question 'Should we be good?' with 'Yes, because our teachers and parents tell us to,' or with, 'Yes, because our actions, big or small, impact on others and that matters' ? The latter is more likely to be arrived at as a result of problematising values and virtues and the best way to do this is through philosophical enquiry.

By providing young people with the opportunity not only to learn about character development and morality, but also to question it, probe it and re-evaluate it, we will give them the chance to think deeply. By giving young people the skills to be able to think for themselves, to identify problems and work through them with their peers, we are equipping them for the future. Their future, not ours.

3.
TECHNOLOGY AND CREATIVITY: ARE YOU THE MAKER OR THE TOOL?

by MARTIN ROBINSON

"Did they teach you how to question when you were at the school? Did the factory help you, were you the maker or the tool?"
Ewan MacColl and Peggy Seeger, Ballad of Accounting

There is an argument that the use of technology in schools *is* creative. However, far from encouraging it, the rush to embrace technology risks reducing authentic, 'human' creativity. Contemporary technology is a very different tool *by design* to the tools of the past.

Technology helps us create things; Orwell's Typewriter, Hendrix's electric guitar and Annie Leibovitz's camera all helped the creation of great art. The relationship between an artist and technology is an important one. Technology can also free up time by helping us do mundane chores, thereby leaving us more time in which to create. A dishwasher is helping me write this by doing the washing up for me.

Increasingly, technology can also create things without us. Robots can make and drive cars. Technology can learn and do an increasing number of jobs. Technology can compose music, paint, sculpt, read and write, and do other things that were previously the sole preserve of humankind. A factory is an obvious example of a place that 'creates' and it is very different form of 'creator' to that of a craftsman creating something in his workshop.

Using a baking analogy, there is a fundamental difference between sliced, white, factory-made bread and bread baked at home. The first, though initially designed by a human being, involves the human part of a process being actively shaped by the limits of the machine. The second is more 'artisanal', with the creativity revolving around the human baker. Though there are potentially significant qualitative differences to a person eating the bread, it is the qualitative difference to the baker that is of most significance – the difference between making bread by hand and working in a factory that mass-produces sliced white is vast.

"People who only see bread on their table don't want to know how it got baked… But the people who make the bread will understand that nothing moves unless it has been made to move."
Life of Galileo (Brecht 1943)

How we 'move' things is, therefore, significant. How we create things, how we do things. We have an investment in the quality of the human involvement in the doing of something. A human beating another human in a chess match is more interesting to us than a computer beating another computer. A real game of football is more authentically involving than a PS4 playing a game of FIFA 19 against itself. A Formula One Grand Prix would be far less interesting if it involved just driverless cars. In short, the involvement of human beings in an act gives it *authenticity*.

The German philosopher Heidegger argued that our lives should be lived *authentically;* between the nothingness before our birth and the nothingness after our death, we should be as human as we can be. To do otherwise would be '*inauthentic*'. This inauthenticity can be compounded for Heidegger if the 'they' of society denies us the ability to choose: 'We are carried along by the 'nobody', without making any real choices…' we become, '…ever more deeply ensnared in inauthenticity' (Heidegger 1927). The word 'they' is interesting. We tend to use it to describe societal forces or structures, for example, 'they said it would rain today'. However, Heidegger goes further and suggests that 'they' is potentially a nobody – symbolic of us not taking responsibility for our own lives. Modern communication compounds this as the 'they' becomes 'Twitter', 'Facebook' or 'what does Google say?'. If we are not careful, our relationship with modern communication technology could result in us leading ever more inauthentic lives and creating lesser works inauthentically. The more that creative work is down to the choices of the maker, the more creative the maker, and the more authentic the creativity.

For this to occur it is imperative that when teaching creative disciplines, we enable budding creatives to assume control over their work and to be able to make choices about what they do. Although the constraints of form, genre, material and tools are important to the creative act, it is also important that these constraints inspire the artist to become more ingenious in their pursuit of artistic merit, rather than reduce their inspiration by doing the work for them. The artist should use the tools available to conquer the creative form in which they work, rather than be out performed by their tools. To live and create authentically means developing a child's ability to make aesthetic choices and develop their taste, they need to be able to exercise volition.

In *The Romantic Manifesto*, Ayn Rand (1969) argues that, 'a fundamental question one must answer is whether man possesses the faculty of volition… Romanticism… recognises the existence of man's volition – and naturalism… denies it'. The power to use one's will is different to merely responding to the way things are. For Rand, the great artist makes things happen. Great creativity involves choosing your values and sticking to them rather than being determined by things beyond your control.

If the human being's volition is reduced by the ability of the machine with which she works, we move from the art and craft of baking bread to the machine-made sliced white. Only the human being who feels time, space and emotion, and is aware of the fragility of existence, can create great art. Even if technology on its own created the most perfect piece of art ever, it wouldn't be as worthwhile as the flawed equivalent created by the flawed human being. It is our humanity that makes what we create *authentic*. If the machine is all powerful it might be advantageous to some of us as customers – mass production can indeed make things cheaper and widely available – but it disrupts and irredeemably alters the role of the maker.

The more the technology takes away a maker's choices, the less she acts of her own volition, thereby altering the creative act. By making the artist a tool of a machine, we lessen creativity. *How* we teach children to create work is, therefore, of real importance. Sometimes we ask them to copy, other times we ask them to make choices based on their growing aesthetic taste, abilities and judgements. This need for the student to develop their own 'informed' volition is important. They need to be able to express their free will and also be open to the critical judgement of others.

> *"Free will and creativity are two sides of the same coin."*
> *Free will: The scandal in philosophy* (Doyle 2011)

During a creative act, synergy can occur between artist, tool and material. For example, it can happen to a sculptor as he works with marble and chisel, a potter with her wheel and clay, or an actor with himself and a script. Some sort of immanence is often

described in these relationships. Heidegger talks about how a hammer seems to lose its form when we use it to bang in nails. Anthropomorphic terminology is sometimes used. BB King, for example, called his guitars Lucille and he would help them to 'sing': 'the minute I stop singing orally, I start to sing by playing Lucille'. Yet at no point do we really think that BB King's voice, let alone his mind, resided 'in' his guitar. This 'feeling' rather resides in the creative artist, she has dominion over the tools and over the material. Suggesting that the chisel or the marble are equal to the human artist is absurd as the tools clearly lack consciousness and 'life'.

If, instead of the creator's mind controlling the tool, we were to create 'tools' that began to have more and more control over the art than the artist, this would fundamentally alter the 'making' and the artistic creativity of the maker. This is where thinking machines come in. Machines that learn and adapt are 'cybernetic'. Cybernetic machines are becoming more prevalent in our lives. Adverts that pop up on a web page that seem designed just for you are there due to an algorithm, which, although designed by a human, seems to have a mind of its own *and know yours*. An inanimate tool that does not think is clearly different to one that is designed to think and make choices for you.

The cyberneticist and anthropologist Gregory Bateson's interpretation of cybernetics is crucial in understanding how far much modern technology can affect the act of creativity. Bateson uses the example of a lumberjack felling a tree: 'If the axe was an extension of the man's self, so was the tree, for the man could hardly use the axe without the tree... and it is this total system that has characteristics of the immanent mind... One mind resided not in one person's skull; it resided in the whole system...' He continues: '...there is a larger Mind of which the individual mind is only a sub system. This larger Mind is comparable to God' (Rid 2016). The individual mind is reduced in tacit acknowledgement of the larger Mind's superiority. Cybernetics, a system of control and communication, when linked to modern communication technology, entails reducing human control and increasing the role of technology.

When some people argue that technology merely offers tools for us to use, it might be that they are not aware of the fundamental difference between a tool to use and one that is designed for total system immanence. The desire for system immanence threatens to render the role of the human to that of a mere cog, or chip in the machine. The human being is expected to have less volition, the activity in using these tools is designed to be less susceptible to human fallibility. Ultimately, the tools make choices instead of the human being. Let me use the following examples: teach a person to crawl, to walk, to run, to cycle, to drive a car with gears, to drive an automatic car and to sit in and be driven around in a driverless car. Which activities are more 'authentic'? If we were to teach our children merely to be driven around in driverless cars rather than walking or cycling, we would, quite rightly, be castigated.

Yet despite this, many people consider digital solutions when it comes to providing children with a creative outlet at school. An app that composes music, that presents a lot of instruments and can alter vocals making the human element more 'in tune', is potentially good fun and can produce relatively impressive results. But this digital technology reduces the quality of the creative input as it does a lot of the thinking for the creator. To a trained musician, though, it can be a very useful tool, and it is for this reason that 'thinking' technology in education should be the last port of call, rather than the first.

If schools are to help young people to live 'authentically', they should teach children how to write, make, paint and compose. We should teach children how to make aesthetic choices with tools that are in their total control, developing their own taste and discrimination, before they dabble extensively in the immanent world of modern 'cybernetic' technology.

Let me use the example of a pocket calculator. Give a child a calculator before they have learnt to do equations and you take away her need and ability to calculate. The ignorant child is told how to use the calculator, she enters data and sees the answer. 4 + 4 = 8. Instead of 'knowing' about calculations or knowing her times-tables, she is able to outsource these skills to the calculator. This frees her mind from such mundanity and in effect, her 'consciousness' is supplanted into the unconscious machine. She puts her full trust in it. She no longer 'feels' she knows the answer, she just accepts that whatever the calculator tells her will be right. She has no schema for calculations, she just has an answer. Exactly the same happens when we 'Google' something. If we have never used a library catalogue, a contents page, an index, if we have never 'read' anything about a subject, we outsource our thinking and critical faculties to the 'thinking' machine. This cybernetic algorithm then adjusts itself, learning our interests and trying to please us, and over time it adapts our search results so that when we search on Google we receive more pleasing results. *It* thinks and, imperceptibly, *we* don't.

Instead of using a calculator too soon, a child should be taught how to calculate and then, when the numbers get so large, or the amount of calculations become so vast, she could then be introduced to the machine. The machine can do some work for her, but it is not beyond her comprehension to understand what it is doing. She retains control and choice. The calculator in the hand of someone who understands calculation is a different tool entirely. The machine thereby is an extension of thought not a reducer of it.

One of the reasons Annie Leibovitz is such a good photographer is due to her education in a number of art forms, including being taught how to paint. This deep knowledge of art would be lessened if she had only ever worked with a digital camera. If that camera made more and more aesthetic decisions for her, as a 'thinking' digital camera does, then her artistic sensitivity would be still less. That is not to say she wouldn't be taking pictures, but that her creative capacity would be reduced while the creative capacity of the camera would be increased.

The lesson that we ought to take from the above examples is the importance of teaching children sums, calculus, arithmetic, algebra and geometry before introducing the calculator. To teach children to draw and paint before introducing the camera, and make this camera an analogue one before taking on the digital. This is not, of course, to say that we should not introduce the calculator or digital camera whatsoever. Nor is it to say that in our wider lives we should follow rules of this kind. But in arts and design education, we should heed such lessons.

Educators need to teach children to understand themselves non-technologically as well as establish their critical relationship with technology. We need to teach that our relationship with technology can be deceptive; it can make us think we have choice, that we are in control. Of course, that is not always as true as we would like to believe. To return to the concept of authenticity, the more the technology uses us, the more 'inauthentic' our relationship to it is.

Fortunately, consciousness is still some way off from being artificially engineered. And though some determinists think of us as little more than biological machines, our sheer complexity means that we remain unpredictable; we can still create great work and accomplish great things. Human beings make judgements, we create and we conquer. Our consciousness is active both in our sense of self and in how we interact with the world. We should continue to nurture the heroic creator in all children and not just put them in their place as part of a system, like a worker ant in a large nest.

Modern society requires that we resist children becoming tools of the machines and instead teach them how to develop their volition as artists and exercise full aesthetic control over their creativity. To become the maker rather than the tool.

4.
THE RISE OF BIG DATA
by PROFESSOR SIR NIGEL SHADBOLT, FRS FREng

The greatest disruptions have occurred when what was once scarce became abundant. The agrarian revolution, the invention of the printing press, the industrial revolution and now the digital revolution giving rise to our networked world. In each case what was scarce became abundant – more food, more literacy, more products, more data.

Data is sometimes called the 'new oil'. But this is a poor analogy. It misses what makes it different from earlier revolutions of abundance. Data doesn't diminish over time: as more services and populations go digital, our data resources grow exponentially. Nor is data a rival good: use by one consumer does not prevent its simultaneous use by other consumers. In fact, its value increases the more it is used.

The analysis of large amounts of data is already established in many fields; from sports to aerospace, retail to finance. In basketball, data has literally changed the face of the game by changing the kinds of shots made, while modern supermarkets can now anticipate stock levels and make customer-specific offers.

High-quality, timely data clearly confers numerous benefits. It can improve resource allocation, streamline processes, lower transaction costs and deliver efficiency gains. Data can be used to improve and personalise services and increase quality. Data is used to power predictive analytics so as to inform planning and decision-making. Increasingly it is used to model social interactions and behaviours as we all generate large amounts of data about our patterns of life. But what is the potential of data in education?

DATA IN EDUCATION
Education has always sought to exploit data; from establishing school attendance to rates of literacy. The difference now, however, is the amount, grain-size and potential connectivity of educational data.

The opportunities for data-driven education are brought about by technological disruption. We are witnessing the emergence of computer-aided testing, online assessment, and real-time simulations. We now have access to individualised and real-time data on pupil performance and can assess how a cohort, subject, or geographical region is performing.

This data-driven narrative of pupil performance will apply across the whole continuum of education – from primary to secondary schooling, further to higher education and into lifelong learning. In future, this data could be integrated with increasing amounts of other fine-grained information; data about health and well-being, stress, sleep, nutrition, sociability and more. How does education adapt to this explosion of data? What are the consequences of this disruption for policy and practice, student and teacher, classroom and workplace? Can we even trust the data? Many questions remain about this data-rich environment.

THE FUTURE OF BIG DATA IN EDUCATION

Imagine classrooms constantly collecting video streams of each child's every facial expression, fidget, and social interaction. A future where there is the logging of objects that every student touches, and microphones recording every word that each person utters. Imagine these same students wearing devices that track everything from their heart rates to their time between meals. Some see this 'internet of things' as a utopia, others a dystopia. This is the world that AltSchool in the US is looking to realise (Herold 2016).

Yet for all of these aspirations, there is now more data available than can reasonably be consumed, and some argue there have been no significant improvements in learning outcomes.

Pasi Sahlberg, a respected education researcher, believes that big data alone won't be able to fix education systems. He argues decision-makers need to gain a better understanding of what good teaching is and how it leads to better learning in schools. Author and branding expert Martin Lindstrom calls this 'small data' – small clues that are often hidden in the mundane day-to-day workflow of schools, in their culture and social fabric. Understanding this fabric must always remain a priority for improving education. In his 2018 book *Natural Born Learners*, educator and author Alex Beard argues that we must understand much more about our extraordinary capacity to learn before we reach too uncritically for technological solutions.

Nevertheless, we will need to create a student user-experience that accords with their ever-connected experience outside the classroom. Augmented reality learning environments, for example, increasingly allow students to undertake practical learning assignments online. This will be a disruptive technology generating new kinds of big data, one that has long promised to make a difference, but has until now been beyond the budgets of schools and most universities.

Another area generating new sources of data are Massive Online Open Courseware (MOOCs) offerings. Some of the world's leading universities have seen their staff produce and launch courses with extraordinary take-up rates. Courses in statistics and machine learning, history, politics and many others have attracted tens of thousands of students drawn from across the world and all demographics. MOOCs are undoubtedly an important new part of the pedagogic data landscape.

Despite the emergence of MOOCs and other digital resources, students generally still expect course content to be delivered in classrooms and lecture theatres, with tutors to provide face-to-face support. However, as education moves online there needs to be a culture shift where both students and tutors are comfortable with having more of their learning take place in virtual and simulated environments, with delivery of content coming via the same systems that support MOOCs and tutor support being provided through electronic means.

OPEN DATA

Since 2009, the UK has been looking to publish open data – data that everyone can use. Open data is a means to increase accountability, improve performance, enhance efficiency, create value and promote innovation. The use of open data has enjoyed considerable success in sectors ranging from policing to health, transport to the environment. The education sector has responded with the publication of its own data sets.

The Open Data Institute has drawn together a list of some of the available datasets relevant to education.[8] They include school performance data at all key stages, pupil absence, destinations data, qualification success rates, attainment by

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8   http://bit.ly/1yturhj

pupil characteristics and many more. This is supplemented by data from other government departments that might have a bearing on education provision, ranging from data on income deprivation to data relating to transport, healthcare, and pollution levels.

The result is a growing number of services that draw on open data to help parents and students. For example, 'skills route' is a new service that helps students to determine the best course or apprenticeship to study, based on a variety of data sources.[9]

Higher Education has its own data resources including those provided by the Higher Education Statistics agency (HESA), the Higher Education Information Database for Institutions (HEIDI), and the University Key Information Sets (KIS). One example of institutions consuming their own open data is the *Jisc* project, which provides an inventory of all major valuable teaching and research equipment held by universities.[10] This is designed to make it easier for universities and industry to share state-of-the-art equipment and tools. The challenge is to make this sorts of resource a part of our everyday data infrastructure.

These successes have to be placed in the context of care about what data is released. For example, the National Pupil Database (NPD) monitors more than 400 variables, covering every year of a child's education from nursery to A-levels. Anyone who has attended a state school in England since 1997 is included; data is taken automatically from school systems and is never deleted.

This is personal and sensitive data – quite rightly the Department for Education (DfE) has stringent controls and limitations on who can access the individual-level data. The DfE does, however, make available a wide range of useful aggregations based on analysis of the data within the NPD. The data can then be used to support decision-making, targeted funding, performance monitoring and educational research.

In order to keep this flow of educational data relevant and valuable we need to invest in the collection, curation and publication of datasets.

LEARNING ANALYTICS

Learning analytics is defined by the Society for Learning Analytics Research (SoLAR) as 'the measurement, collection, analysis and reporting of data about learners and their contexts, for the purposes of understanding and optimising learning and the environments in which it occurs'.

Such analyses are used as a means of quality assurance and quality improvement of teachers, students and courses. They have been used to help improve retention rates by identifying at risk students and intervening at an earlier stage with advice and support.

Nottingham Trent University was the first institution to roll-out a comprehensive data driven dashboard for both students and tutors to help with the challenge of retention. The data used included attendance on campus and library usage (collected via the swipe card), tutorial attendance and use of the Virtual Learning Environment (VLE). Tutors receive alerts of potential 'disengagement' and can take appropriate steps to address the problem. Analytics have shown a strong correlation between high engagement, retention and high academic achievement.

The Open University's *OU Analyse* system, for example, used real time and predictive analytics from previous cohorts for detecting at-risk students in terms of subject performance on particular courses.[11] The system used various

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9   http://www.skillsroute.com/
10   https://www.jisc.ac.uk/rd/projects/equipment-sharing-made-easy
11   https://analyse.kmi.open.ac.uk

demographic and usage data from the VLE. From this, the system created a behavioural 'fingerprint' which showed how the student is engaging with learning activities week-by-week though the modules they were studying.

Learning analytics offers a way of assessing and acting upon differential outcomes among student cohorts at the individual, sub-group and system levels. They can be used to drive the development and introduction of adaptive learning – personalised learning at scale where students are delivered content and tasks contingent on their transactions, interactions and performance.

Learning analytics can also impact staff and has a role in helping to recruit, retain and promote those delivering the educational experience. This has been particularly evident in research evaluation within higher education. 'Academic analytics', for instance, rely on data such as the 'h-index' (calculated by looking at a researcher's most cited papers and the number of citations received) and research income won. Jisc offers support and advice around the application of Learning Analytics within the HE sector[12] and a number of UK Universities now incorporate Learning Analytics projects and programmes within the services they offer[13].

However, despite the various potential opportunities and benefits detailed above, according to Xanthe Shacklock's (2016) Higher Education Commission (HEC) paper and it likely still remains the case that, 'the UK is behind globally on the development and implementation of learning analytics', and faces several challenges to the use of data at scale.

CHALLENGES

A key challenge is the difficulty of improving learning without intruding on privacy. What should be collected and released? There are also concerns that simply measuring does not lead to better grades, test scores and graduation rates. Indeed, data correlations do not always reveal underlying causation. To move to a more robust and effective use of data, educational institutions need both substantial resources and changes in culture. Foremost in many people's minds is the issue of trust and privacy.

Trust is fundamental to realising the data opportunity, yet there is considerable scepticism among consumers and citizens that the large organisations that manage and process the data are to be trusted with it. Research commissioned by the UK Royal Statistical Society (2014) indicated that the media, internet companies, telecommunications companies and insurance companies rank lowest in a 'trust in data' league table. In fact, only between 4 and 7 per cent of citizens surveyed indicated they had a high level of trust in these organisations to use data appropriately, compared with 36 per cent trusting the NHS and 41 per cent their local GP. Yet even in these key public services, a majority are either unconvinced or else distrustful of how their data will be used. How well would the education sector fare?

This scepticism is fuelled by stories of personal information either lost or stolen, exfiltrated or sold by companies large and small, public and private. It is further reinforced by a sense that technological developments lead to the erosion of both our privacy and our ability to control the generation, destination and use of our data. A counter argument is that the types of services we now rely and depend on – from online shopping to mobile banking – require personal data, and that there is an inevitability about these developments.

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12   https://www.jisc.ac.uk/learning-analytics
13   For example https://www.ed.ac.uk/information-services/learning-technology/learning-analytics

An associated problem is that many data services offered today are 'black boxes' which deliver results or decisions based on algorithms and data sources whose behaviour and content are opaque to the user. How these systems are built, their requirements, and the range of capabilities they give rise to, are unknown to their users. Education can help unravel the mysteries of such systems and empower citizens to better understand data as used in everyday services as well as learning analytics.

A start could be the widespread adoption of guidelines similar to Jisc's *Code of Practice for Learning Analytics*. This code acts as a guide for institutions implementing analytics systems, and sets out their responsibilities to ensure that learning analytics is carried out responsibly, addressing the key legal, ethical and logistical issues which are likely to arise.

It is a code that policymakers would do well to consider. Some of its key principles include:

1. allocating responsibility for the data and processes of learning analytics within an institution
2. being open about all aspects of the use of learning analytics and ensure students provide meaningful consent
3. ensuring individual rights are protected and data protection legislation is complied with
4. making sure algorithms, metrics and processes are valid
5. giving students access to their data and analytics.

DATA LITERACY

As the global digital economy grows, all leading economies are seeing a major increase in the demand for data skills. Access to data skills and talent is a constant challenge for both the public and private sector. Addressing the data skills shortfall should become a strategic priority. Serious resources will have to be invested in order to counter this skills shortfall.

Data literacy will be a key ingredient for any successful use of big data and learning analytics within an educational context. An important consideration relates to the skills that teachers will need in this data-intensive era. From the student perspective, the challenge, particularly in schools, is to accommodate data literacy within existing curricula, so that students are able to apply big data methods, not simply be the subjects of data analysis.

For instance, core data sets can be linked with curriculum content so that students themselves can become literate in the use and management of data as illustrated by the 'data expeditions' concept at the School of Data.[14] Meanwhile at the HE level, new masters degrees dedicated to big data analytics and machine learning are now being launched to address the skills gap. These technical courses will not, though, be enough. There is a growing demand for data analysts who are able to combine their technical and analytical skills with soft skills and industry knowledge to turn data into real value for their organisations, as well as to be able to 'train the trainers'.

YOUR DATA, OUR DATA, MY DATA

As technology rapidly changes the job market, lifelong learning is becoming a necessity. As such, the educational journey that a citizen embarks on should lead to a new lifetime form of electronic record that will be as important as their health record. It should embody the principles of data portability using open standards. It will be a CV with a flexible transcript, an educational record where some parts

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14   http://schoolofdata.org

of it are a matter of public record while others will be available for the individual to release to potential employers and others as appropriate. By empowering individuals through giving them access, skills, and control over their own data, the education sector could help remedy the asymmetry that currently exists between citizens and the state, consumers and business, around the use and exploitation of data. Only then can the full potential of 'big data' be realised.

5.
COGNITIVE NEUROSCIENCE AND ITS IMPLICATIONS FOR EDUCATION

by FIONA WALKER

As education teeters on the edge of a period of massive change, the development of 'cognitive neuroscience' is particularly timely. Our society is hurtling into the digital information age, forcing education to morph into something truly relevant to the 21st century. Neuroscience – the study of the functioning brain – has the potential to be a valuable partner in a reimagining of education, with successful and motivated students and teachers at its heart. However, without an informed workforce, driven by a long-term strategic alignment between our research universities and schools, the enormous potential of neuroscience to inform education will never be realised.

The digital explosion of information has created the need to nurture learners who know how to sift through a mass of information. As they do this, they are determining relevance and quality, understanding and synthesising information from multiple sources, thinking critically, creatively, and ethically, and drawing on inter- and intra-personal skills.[15] This picture is a far cry from the 'memorise and regurgitate' industrial model of the last century.[16] The smooth transition from an out-dated, traditional model, to a transformative, 21st century education, could provide an excellent vehicle for the evolution of an authentic and appropriate 'education-cognitive psychology-neuroscience' triple partnership (Slavich, 2005). This new ground is where neuroscience will have the opportunity to shine.[17]

The advent of functional brain scanning (fMRI) technology in the 1990s and the subsequent growth of neuroscience research has introduced an important biological dimension to education. Neuroscientists can now show us pictures of the brain with the location and intensity of brain activity represented by coloured lights, and expert interpretation of these scans can tell us what is happening inside a living brain in response to specific stimuli. Although school-based learning will always be intensely behavioural in nature, education theory now has the opportunity to incorporate, where appropriate, a new science – neuroscience – that has already provided an enriched understanding of the mental processes which are involved as students learn.

A significant challenge, however, is that neuroscience and education operate in totally different environments and speak totally different languages. It is highly unlikely that the specific neuroscience of the controlled laboratory will ever directly tell teachers what to do in the social and comparatively chaotic world

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15   This list has been influenced by the five 'minds' described in 5 Minds for the Future (Gardner 2009).
16   That Sir Ken Robinson's 2006 TED talk, 'Do Schools Kill Creativity?' is still the most popular TED Talk to date is further evidence of the groundswell of opinion regarding the current system's inadequacy and the global appetite for change. https://www.ted.com/playlists/171/the_most_popular_talks_of_all
17   The QED Foundation's Transformational Change Model provides a visual map of pathways to transformational learning.

of the classroom. To go directly from 'brain scan to lesson plan' is just not possible (Thomas 2011). As Professor Torkel Klingberg has put it, 'to know that memory is located in the hippocampus is not going to make anyone a better teacher' (Walker 2016). For the disparate disciplines of education and neuroscience to come together in practical classroom application, an intermediary with a foot in each camp is required.

It is at this point that the relationship of cognitive psychology to neuroscience comes into focus. Cognitive psychology, the scientific study of mind and mental function, acts as an interpretive bridge between education and neuroscience and opens up lines of communication between the two, creating the new field that has been variously called 'Mind, Brain Education', 'educational neuroscience' or, my preference, 'cognitive neuroscience'.

It is important to understand that information and expertise flows in both directions. Translated by cognitive psychology, neuroscience research can both validate *and* question known education theory, as well as contribute new knowledge to educational issues. Similarly, through cognitive psychology, education can provide insights to neuroscience research, *and* call upon neuroscience to provide knowledge regarding pressing questions relevant to teaching and learning. It is a two-way street.

While providing opportunities, this 'education-cognitive psychology-neuroscience' triumvirate can be challenging as the translation of neuroscience research for education can vary depending on the topic and the perspective of the psychologist translator. For this reason, identifying reliable information about neuroscience is a significant problem for teachers, and it is clear that there are currently too few people with translation expertise in all three disciplines working in this complex field.

Thankfully, there is a growing body of reliable research about practical ways in which cognitive neuroscience can contribute to the education arena. Research is showing cognitive neuroscience to be having an attitudinal impact on informed teachers, causing an intriguing change in the way that they think about their teaching as they develop a biological understanding of why certain learning practices are effective. In the future, cognitive neuroscience will also create opportunities to bring quantitative data to qualitative questions. This opens up enormous possibilities. For example, what can neuroscience tell us about what makes a good teacher? To shed the light of hard science on behavioural questions of teaching and learning that are *not* to do with standardised test scores will be refreshing and provide a welcome shift in the scientific basis used for the evaluation of different pedagogical approaches.

The potential for such seismic shifts in education is in no small way due to the powerful visuals that neuroscience brings. One example is the concept of the 'plasticity' of the brain. The brain is continuously changing, or 'learning', in response to the environment and its experiences are stored as memory. Although this idea is not new, teachers' response to the idea of neural pathways growing and shrinking in response to experience has had the effect of renewing the belief that all students are capable of progress in their learning (Dweck 2006). Powerful visuals of the brain as it learns have particular appeal to the new generation of teachers who are accustomed to using technology to deepen their understanding. Such biological data input is strengthening commitment to good teaching practice as a defined body of knowledge; knowledge that is taking shape at the intersection of education, cognitive psychology and neuroscience. This is a positive advancement in a profession that has been historically vulnerable to fads and political whim.

Cognitive neuroscience has also aided our understanding of how information is processed during learning – for example, by highlighting the importance of activating prior knowledge before introducing new information. The 'neuro spin' on this established practice is extremely powerful as teachers visualise the gradual build of sparse neural pathways up to complex neural super-highways of knowledge and understanding. Teachers assist students to search for and retrieve established neural networks and then build links and connections to other neural highways in a creative and integrated way (Glick 2011). For teachers to think in these terms results in a powerful, renewed commitment to teaching practice and has brought benefits to students. This is particularly so for students from culturally diverse backgrounds who may have very fragile initial neural pathways for culturally unfamiliar content and texts used by schools.

Another strategy that an informed teacher is likely to 'recommit' to as a result of engagement with cognitive neuroscience is 'appropriate challenge' or 'desirable difficulty'. Cognitive neuroscience tells us that learning is more effective when effort is required and the prefrontal cortex is involved. When an action becomes automatic, the activity occurs in a different part of the brain and learning becomes less intense. As such, deliberate differentiation of content for students, to provide individual students with an appropriate level of challenge, is important. Catering successfully to diversity in areas of specific learning disorders is an area where neuroscience has contributed ground-breaking new knowledge about dyslexia (reading) and dyscalculia (mathematics). This will impact greatly on practice by improving our knowledge about the pathology and nature of learning disorders.

Memory is another area, crucial during the learning of content, where cognitive neuroscience provides insights. Teachers and students are helped to understand the difference between short, working memory and long-term memory and design learning sequences accordingly. For example, three interrelated strategies that neuroscience research has validated as significant for learning and retention are: spaced learning (learning content multiple times with breaks in between); interleaved content (alternating different topics); and low-stakes testing such as quizzes. (Howard-Jones 2014).

Cognitive neuroscience research has provided new knowledge and understanding in the social and emotional domain. The brain is a profoundly affective organ, and cognitive neuroscience informs us about the educationally-limiting effect of the fight-or-flight response to stress that is centred in the limbic system of the brain, specifically the amygdala. When we feel threatened or anxious, such as during 'maths anxiety' (Young et al 2012), the amygdala (a set of neurons shown to play a key role in processing emotions) overwhelms the prefrontal cortex (but not other brain regions) with excess dopamine, blocking activity in the pre-frontal cortex which is so important for learning and clear thinking (Cerqueira et al 2007). This knowledge professionally validates social-emotional learning programmes and the many strategies implemented by schools that build resilience and create peaceful, safe environments where students feel secure enough for their brain to allow learning to happen.

Additionally, successful collaborative enquiry requires strategic, goal-oriented behaviour, intrinsic reward and the inhibition of inappropriate impulses. This stems from a diverse group of cognitive processes covered by the term 'executive function' (EF). Teachers are all too familiar with students with poor EF who demonstrate little self-control, are impulsive, have short attention spans and are hard to manage (McCloskey 2011). The EF explanation provided by cognitive neuroscience is positive in its encouragement of a no-blame attitude and a solutions-focussed approach which can significantly alleviate stress for all concerned. Rather than react emotionally, the teacher can support the student with a range of strategies aimed at moving the student towards self-regulation. This can include modelling EF

skills such as selective attention and goal setting, and ensuring that students are progressively challenged as their self-regulation improves (Diamond and Daphne 2016). Such strategies may not, unfortunately, change behaviour in the classroom very quickly, but deeper understanding of the causes of certain behavioural problems encourages a compassionate approach to behaviour management.

Although much is said about creativity, imagination is arguably the number-one personal quality needed in 21st century. The practical usefulness of technological fields such as neuroscience is only limited by how we *imagine* it to be applied and the critical and creative questions that are asked of it. Imagination of this kind is borne of deep understanding of traditional and evolving disciplines. This points to the necessity of a growth in the number of researchers who are theoretical and practical experts in neuroscience, cognitive psychology *and* education, in order to constructively exploit the potential of neuroscience. These 'tri-experts' will be able to ask the right questions, discover the answers, and take the solutions all the way to practical classroom application that benefits students. Without the combined commitment from education systems to develop such trans-disciplinarians, cognitive neuroscience runs the real risk of stagnating in post-graduate theses.

To avoid this outcome, a tighter link between schools and universities is needed. This will also help to foster a two-way flow of communication that will benefit students through increased efficacy of education practice and knowledge. A pertinent example is the angst at the lack of progress in 'closing the gap' between the academic results of the privileged and the disadvantaged, including students raised in poverty. The solution is currently being sought in a hyper-standardisation of curriculum delivery, but the 'attainment gap' remains. The imaginative 'neuro spin' question is, 'how does poverty affect brain function and what can be done about it?' The quantitative data which is then used to answer this qualitative question could be enormously helpful in the design of effective education interventions with the potential to make a difference. Kurt Fischer – a pioneer of 'Mind, Brain, Education' – called for teachers to become 'educational engineers' and contribute their unique perspective to furthering the field of cognitive neuroscience (Heikkinen and Fischer 2010). Far from the school being simply the research site, the school must assume the role of active partner in ongoing research and have critical input.

Other imaginative questions could revolve around transformative learning skills. For example, what does neuroscience tell us about collaborative learning versus independent learning, and when best to use each approach? How can we learn from knowledge that runs counter to accepted educational theory (Howard-Jones 2011)? How can games be successfully used for educational ends? Will neuroscience help track any impact of artificial intelligence on our brains and education? And what else do we need audited by neuroscience, interpreted by cognitive psychology and incorporated into classroom practice? The potential is enormous.

However, the biggest challenge to harnessing cognitive neuroscience is the education of the existing workforce and pre-service teachers in cognitive neuroscience. Unfortunately, a plethora of pseudo-neuroscience is emerging as opportunists capitalise on the current high level of teacher interest. Schools are bombarded with commercial programmes sporting coloured pictures of the brain and purporting to be 'linked to neuroscience'. Without the knowledge needed to confidently discriminate between the quality of information, enthusiastic teachers are vulnerable to commercially-touted misconceptions and over-generalisations that have no place in schools. As a result, it is essential that teachers are provided with a base of quality professional learning in cognitive neuroscience during their teacher training, and that plans to upskill in-service teachers are implemented. The *ad hoc* way in which the profession is forced to access this information is unacceptable and unhelpful.

The extent to which the applications of cognitive neuroscience are realised is dependent on the resolution of a series of complex challenges. These include: the access to – and generation of – reliable information; the education of the teaching profession in cognitive neuroscience; the need for schools and universities to work together to co-research relevant questions; and the strategic creation of transdisciplinary experts. This vision will require policy makers, politicians and educational leaders who have the imagination, intelligence and vision to make a proactive commitment to a long-term strategic plan that will nurture the role of neuroscience in education. This is not just a moral imperative but an economic one too. It would be delinquent for the field of cognitive neuroscience to be waved off as a fad or as 'too complicated' when new knowledge of this kind has the potential to work hand-in-hand with education to create an informed and highly relevant educational model for the future.

6.
THE ONLY WAY IS FORWARDS: THE NEED FOR BOLD LEADERSHIP IN TROUBLING TIMES

by LIZ ROBINSON

Education, like most aspects of public life in the UK, is having a pretty tough time. With cuts now biting hard, unforgiving levels of accountability, a chaotic 'middle tier' between schools and central government, and shocking levels of exclusion (above or below the radar), worryingly little time or attention is given to the real burning issue of the day: how do we re-design schools, curricula and pedagogies in order to provide the kind of education needed in the next 100 years?

Having been a headteacher and then co-head for 13 years, and now working across a number of schools, I have seen and lived through the fundamental restructuring of the schooling in England. My work developing and supporting aspiring school leaders has given me privileged access to a wide range of schools, as has being a National Leader of Education and working as part of a Teaching School alliance.

What is beyond question is the pivotal role leadership plays at every level of the system. Generous, insightful, proactive leaders create organisations that nurture, excel and inspire. These leaders and their teams change the lives of those they serve as well as those who work with them.

Despite our 'keep calm and carry on', compliant nature, isn't it time now for leaders to move beyond 'tinkering' within a system that is flawed, and to step into a bolder role as designers of the future of our education world? As teachers, we 'make things work'; we are exceptionally practical, hard-working and positive. We find a way through. We figure it out. We cope. Because our students only get one chance.

This means we seldom really take the time to step back and think big. Really big.

SIX BIG QUESTIONS FOR LEADERS
Now is the time for leaders to stop and ask themselves (and their teams) *six big questions*. And on the basis of this thinking, we need to get into action, and take steps to create the future system we believe in. Because if you don't address these questions, others will answer them for you, and we will continue to have to 'make the best of it'.

QUESTION 1: HOW DID WE GET HERE AND WHAT IS THE CURRENT REALITY?
In the last thirty 30 years, successive governments have devolved more and more power, resource and autonomy to schools. This has been mirrored with high-stakes accountability for individual institutions. There has been as great a focus on how schools are organised and led, as there has been on what they actually do.

And the results? Well, depending upon your point of view, mood, stress level, politics or Ofsted grading, you might describe our school system as, variously: diverse, empowered, accountable, innovative, academically rigorous; or alternatively: fragmented, narrow, unequal, joyless, incoherent or divisive.

A headline-grabbing consequence of some of this high-autonomy/high-stakes accountability model are the shock stories about school leaders falling short of our implicit expectations of them: bullying staff, excluding pupils too readily (or illegally), narrowing the curriculum, and drawing excessive salaries.

Despite the obvious instinct to disparage those people as individuals, I think we have to confront the reality that the *values* embedded in the *structures* that we as a sector have created are actually driving *behaviours* that we then criticise. The sad fact is that the logical and rational behaviour of a school leader is to maximise for success in that which is measured (ie exam success); off-rolling those students who will 'damage' your data makes sense if that's the only measure that matters.

Successful and virtuous initiatives (Teach First, Future Leaders, Teaching Leaders) have, in the last 15 years, focussed predominantly on 'closing the gap'; reducing the shocking inequalities in outcomes for economically disadvantaged pupils. However, what they have failed to do is in any way challenge the fundamental view of what success looks like – what are we trying to achieve?

With a view of success largely focussed on exam/test scores, the system has developed the infrastructure and incentives to support this: norm-referenced exam grading which ensures winners and losers; high-stakes accountability (league tables, Ofsted, Local Authorities, Multi-Academy Trusts and Regional Schools Commissioners) based largely on results; Teaching Schools/National Leaders of Education defined by Ofsted grades (which are based on results). The stakes could not be higher. Doing the right thing is no longer the easy, or at times, the rational thing to do. We have to ask ourselves how we ended up here, given that most teachers enter the profession with far more ethical and altruistic motives than these behaviours would suggest.

Behaviour is shaped by the deep, systemic values and the structures that flow from them (either intentionally or otherwise). Our leadership is required further 'upstream', to challenge and consider the fundamental questions about our education system, if we are to have the influence we need to have.

QUESTION 1 – REFLECTION

Allow yourself to step out of the 'here and now'. Look at what we are doing in schools and the organisations around them.

- What are the big things that strike you?
- What works? What doesn't?
- What are the best things? And the worse?
- What are we missing? What else should be happening?
- What gets in your way?

QUESTION 2: WHAT IS SCHOOL FOR?

It feels like it has never been more important to take the time to go back to first principles in our thinking about schools. We need to have the courage to ask – in light of political, technical, environmental and social change at unprecedented speed – what really is the purpose of school?

One of the challenges of working in this education sector is that *everyone* seems to have a view on this; everyone has been through an education of one form or another and tends to have strong views about this experience. Although it can often appear that what actually happens in schools is defined by the views of a small number of people at the centre (politicians and their selected advisors), it is absolutely critical for all of us – as teachers, parents, leaders, citizens and human beings – to articulate and fight for what we think matters in education.

Some possible definitions of the purpose of schooling are:

Unlocking the potential of every child
• Empowering *every single* young person, as an individual, to develop their self-esteem and find ways to achieve and be successful
• Encouraging creativity and self-discovery
• Establishing and developing a life-long love of learning

Preparing for life and the world of work
• Teaching practical life skills, including financial management
• Developing skills of collaboration and problem solving
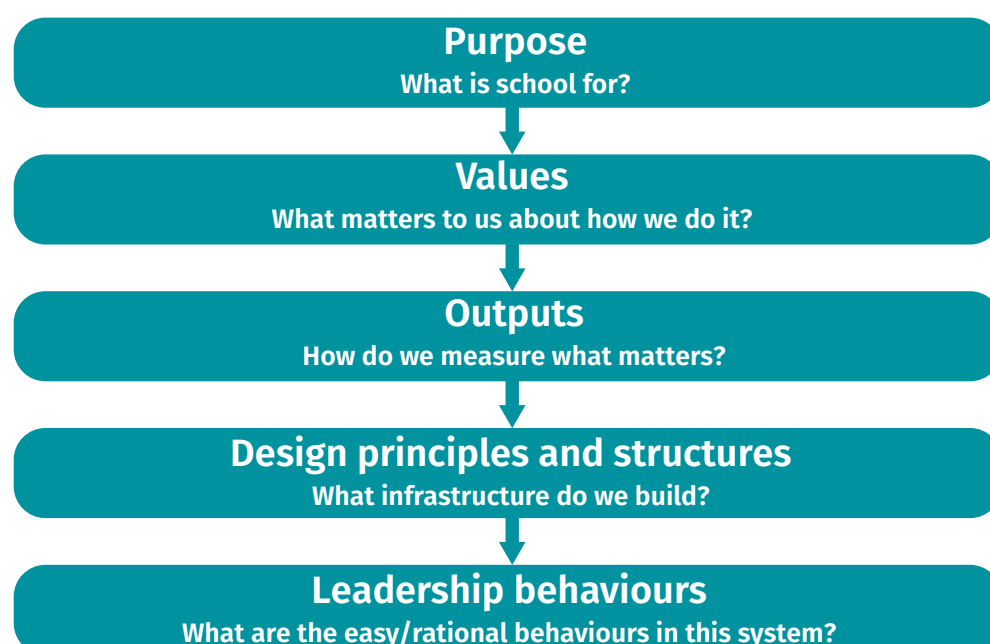• Technical and vocational skills

Creating responsible citizens
• Creating responsible leaders and custodians of our planet for the future
• Community development, empathy and activism
• Nurturing loving, respectful and compassionate relationships

Passing on the 'cultural capital' to the next generation
• Passing on a body of knowledge

It is this last one which currently enjoys a dominant status. The passing on of knowledge, 'the best of what has been thought and said' (Matthew Arnold), is the core purpose that shapes and drives the design and work of the sector.

Debating, and coming to a view on, the core purpose is a critical part of our work, since the purpose goes on to shape every other aspect and design of the system.

Purpose
What is school for?

↓

Values
What matters to us about how we do it?

↓

Outputs
How do we measure what matters?

↓

Design principles and structures
What infrastructure do we build?

↓

Leadership behaviours
What are the easy/rational behaviours in this system?

At Surrey Square, where I was head from 2006–2018, we captured this in our mission statement; *'Personal and academic excellence; everyone, every day'*. There is not an either/or; we expect excellence across personal (as defined by our values) and academic (which itself has a broad definition) domains. This expanded vision of what the school stands for has served as a powerful basis for decision making and shaping our practice to those ends.

The purpose is the basis upon which the system is designed. It's time to go back to first principles.

QUESTION 2 – REFLECTION
Which of the four main purposes of education do you most agree with?
- Is there one missing?
- What is the right emphasis or mix of these?
- How would you want to redress the currently lived purpose?

Who might you discuss this with?
- When did you team/governing body last discuss this agenda? What have you read on the subject?

QUESTION 3: VALUES – WHAT UNDERPINS YOUR BELIEFS?
Closely linked to purpose, our values shape our decision making, and therefore the structures and policies we create. The value of choice, for example, has played a definitive role in recent years; the role of Ofsted is seen as critical in informing parents to enable choice; and admissions policies enable preferences for families.

I find myself at odds with some of the currently dominant values, which include choice, competition, universality, performance, autonomy and social order. In particular, the emphasis on choice and competition has enjoyed too high a status, and actually has a detrimental effect on the values of universality and performance.

Values can be explicit or implicit. Either way, they play a powerful role in our decision making, driving our choices. Every organisation or system has values, whether or not they are articulated or even thought about. The lived values are evident in the behaviour of the individuals and in the culture and norms that drive this.

As a headteacher, I found values an immensely powerful vehicle for building a community and culture. By making a set of values explicit, it became possible to create a culture that is both coherent and empowered. The values are the high-level 'non-negotiables', but they require engagement, thought, and personal responsibility. The values do not set out every expected behaviour for you. Self-awareness is required, to reflect on one's choices, and engagement with the values, to help shape future decisions. The real power and potency comes when the systems, processes and behaviours in the organisation all align.

As leaders, we have an extraordinary power to influence and shape the values of our own organisations, and of the system more widely. By being clear about what we believe to be important, we make a stand and create deep change.

It is now critical for leaders at all levels in the system to fully and intentionally engage with these fundamental questions, and use these insights to design for the future. Do you accept the current lived values of competition and choice, or are there other things that matter to you?

What are the opportunities to change the emphasis and motivation of leaders within the system to influence thinking around what really matters to us?

QUESTION 4: OUTPUTS – WHAT IS THE RIGHT WAY TO MEASURE WHAT MATTERS TO YOU?

Clarity about the purpose and values of schooling leads us to be interested in considering the outputs or outcomes that matter. As well as leading us to consider our curriculum and pedagogy (what we teach and how we teach it), it also means we must consider the metrics which show us if we are achieving them. I am focusing on metrics as the measurement is, in reality, what drives behaviour. Most of the systemic incentives are linked to metrics. As such, it is a point of high leverage for change.

The emphasis on 'passing on the best that has been thought and said' has translated into a sharp focus on the 'academic achievement' of pupils, as measured by their performance in tests. Tests are an entirely appropriate way of finding out if we have been successful, in this model. In order to capture this information and have appropriate metrics to measure the efficacy of the sector, we have data points, when children are aged 5, 7, 11, 16 and 18. This is the logical and appropriate way to measure success if this is what we predominantly value.

This is an extremely narrow view of the successful development and growth of human potential over the 14-year journey through our school system. It is a view which is fundamentally flawed.

In the words of my daughter:

> *"I think we should spend more time on history and geography and less time on maths and English. All of the subjects should be 'shoulder to shoulder' – to have the same right to learn with the children."*
> Ella, aged seven

Indeed, there is a growing consensus that a purely academic output of school is inadequate. Employers are articulate about the need for a broader skill set. They want young people with 'something about them' – initiative, ability to problem solve and think creatively. Even big corporates[18] are taking serious steps to look for a more diverse intake, moving away from traditional indicators by ignoring qualifications at selection stage.

Technical and vocational qualifications have long been considered second rate in the UK. Our 'gold-standard' qualifications are becoming an albatross, blinding us to the need for a far broader and more relevant set of qualifications. As parents, we are locked into an 'arms race', feeling we must fight and plot a path for our

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18   https://www.independent.co.uk/news/business/news/ey-blind-cv-policy-diversity-workforce-ernst-and-young-trainee-job-applications-academic-education-a7558696.html

children, as we all chase the holy grail of top grades and coveted university places. We are a powerful driver in reinforcing the status quo.

But leaders can be part of a change. There are of course myriad ways to evaluate and measure different types of learning. We can model and make explicit what matters to us in our own institutions, find ways to show our efficacy and evaluate our effectiveness. We can communicate explicitly, and model implicitly, the balance of what we care about, metrics and measures that matter.

CASE STUDY: 'PERSONAL EXCELLENCE' AT SURREY SQUARE PRIMARY SCHOOL

At Surrey Square, 'personal excellence' is defined by a set of seven core values; embodying these is our aim for pupils every day. Our core values represent a 'curriculum' for personal excellence, which is actively and explicitly taught, assessed and reported on. To demonstrate each of those values in the way a pupil conducts themself is to show personal excellence, as is the ability to use the values as a tool for reflection and learning when things go wrong.

The core values encompass a range of meta-cognitive, social, emotional and self-management skills. They become a vibrant part of every lesson, every day. Each has a character (Percy Perseverance, for example) with bespoke puppets, stickers, postcards and 'learning journeys' to support and reinforce their qualities.

We have worked to establish a progressive scale of skills for each of these values, which enables us to establish baselines, teach specific skills, and then to track progress. This scale provides a roadmap for pupils and staff to follow in order to enable progression. It also supports teaching on each set of values, and enables us to demonstrate progress in a tangible way (alongside more qualitative data).

We have collected longitudinal data from our former students to help us understand the effect of this approach. For us, ultimate success is not defined by how well our pupils achieve in exams at age 11, but rather by the choices they are empowered and enabled to make at age 16, 18 and beyond.

Much of the difficulty in 'evaluating impact' is the result of different views on what it is easy or difficult to measure. The 'McNamara fallacy – named after the US Secretary of Defense during the Vietnam War – involves making a decision based solely on quantitative observations and ignoring all others, often due to arguments that alternative measures cannot be 'proven' in the same way[19].

> *"The first step is to measure whatever can be easily measured. This is OK as far as it goes. The second step is to disregard that which can't be easily measured or to give it an arbitrary quantitative value. This is artificial and misleading. The third step is to presume that what can't be measured easily really isn't important. This is blindness. The fourth step is to say that what can't be easily measured really doesn't exist. This is suicide."*
> (Handy 1995)

This means that as teachers, school leaders, and academics, we must continue to find meaningful ways of capturing and using information aspects of learning

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19   Named after Robert McNamara, the United States Secretary of Defense from 1961 to 1968

that we value, but which are not so easily measured. We must become 'bilingual' – talking in the language of the system as it is now, but also exploring and developing our ability to articulate the other things that matter.

QUESTION 4 – REFLECTION
- How can we, both individually and collectively, progress the dialogue about what we want our education system to achieve?
- How can you more explicitly model what matters to you?
- How can you find innovative ways to measure the impact of your chosen values, thereby capturing more of what matters to you?

QUESTION 5: WHAT SYSTEM DO WE BUILT TO SUPPORT THE SCHOOLS OF THE FUTURE?

What we care about, and therefore what we want to achieve, drives our actions and what we then go on to create. Very often, these 'design principles' are unconscious or not openly discussed, but they powerfully shape decision making at all levels. It is, therefore, helpful to unpick these principles in order to empower us as leaders to better understand our actions and evaluate how we might be able to change them for the better. One of the English system's dominant structure is, of course, Ofsted. So let us apply this approach here.

TABLE 1

How values shape design principles and structures

Value	Outcomes	Design principles	Structures
Choice	A high level of parental choice A diverse range of schools	(Perceived) parental choice	Ofsted to collect and publish detailed school-level performance data to enable/inform parent choice
Competition	Rising performance standards in all schools	Outcomes measures which allow for comparison between schools and over time	Ofsted to deliver an inspection framework based on 'grades' of success Ranking schools according to performance data
Universality	Access – entitlement to free education Quality – making every school a 'good' school Enabling social mobility and creating opportunities	Competition as a positive force for raising the bar and driving efficiencies	Ofsted ensuring that all schools are subject to the same standards and expectations
Performance	Raising academic standards Improving England's ratings in OECD/PISA comparisons	Rewarding success as an effective means of motivation	An Ofsted framework with prioritises strong academic performance over time
Autonomy	A school-led system A high level of sector-wide work	Prioritising decentralization, and reducing the role of the 'centre' Promoting individual schools as hubs of innovation. The best place for innovation is individual schools Balancing high levels of autonomy against levels of accountability	An Ofsted framework based on public and high-stakes accountability for individual schools, as a result of their high levels of autonomy
Social order	Ensuring young people develop the skills to be successful and meet the needs of the labour market Creating responsible citizens of the future Building 'character' Promoting our shared human and democratic values	Measuring the ability of all educational institutions to promote British values and citizenship	Ofsted inspecting individual schools according to their success in promoting British values and citizenship

Source: Author's analysis

The continued strong commitment to parental choice is, for example, a key driver in resisting the move to inspect multi-academy trusts (MATs) centrally. Parents love to have detailed information about individual schools in order to support their choices, and Ofsted understands how important school-level inspections are for affecting choice. As a parent, I am not necessarily interested in how well the meta-structure works (just as there has never been a high level of public scrutiny of local authorities), but intensely keen to know about 'my' school.

So, what might some alternative design principles be? A belief in equity over competition leads me to *collaboration*. A belief in human potential leads me to *adult learning* and *continuing professional growth* as other drivers for creating systems based on alternative values. By emphasising different values, we are led to create different infrastructure.

CASE STUDY: THE SCHOOLS PARTNERSHIP PROGRAMME

The Education Development Trust (formerly CfBT) has developed a school improvement model – the Schools Partnership Programme – which empowers and enables school leaders to engage in a rigorous routine of quality assurance and school development using peer review. The model embodies collaboration and adult learning as key design principles, while not compromising on the value of high performance.

Through a deep understanding the challenges of peer-to-peer work, the Trust have designed training and protocols which embolden teachers and school staff to move out of 'the world of nice', to have challenging conversations, and then to actively support one another to make positive change. There are numerous other models of collaborative development, showing an appetite for change, and modelling the power leaders have to change the agenda by creating new approaches and solutions.

This approach fundamentally challenges the view that quality assurance and school improvement are things which rely on hierarchy in order to be effective.

QUESTION 5 – REFLECTION
- How do you think about designing systems and processes in your own organisation?
- To what extent do you consciously 'design' these?
- What are the design 'principles' you draw on, consciously or otherwise? How could you amend these, make them explicit, and share them with your teams?
- To what extent are your values evident in the systems and processes in your organisation?

QUESTION 6: HOW DOES OUR OWN BEHAVIOUR MODEL THE FUTURE WE WANT?

What, then, is the effect of the structures we create on leadership behaviours?

Ofsted remains the arbiter of excellence in our system, and the stakes could not be higher for school leaders. As such, the motivation for school leaders to deliver

on academic outcomes become extreme. This often results in schools becoming drastically skewed towards understanding and delivering these narrow academic outcomes that they actually cease to genuinely serve pupils and their wider needs. These incentives, combined with the brutality with which we treat those who 'fail to deliver', drive the behaviours of leaders, including the schools they choose to work in.

> *"There is a clear and systematic negative correlation between school intakes with more disadvantaged children, and more favourable Ofsted judgements...*
>
> *Secondary schools with up to 5 per cent of pupils eligible for free school meals (FSM) are over three times as likely to be rated 'outstanding' as schools with at least 23 per cent FSM (48 per cent 'outstanding' vs. 14 per cent). At the other end of the scale, schools with the most FSM pupils are much more likely to be rated 'inadequate' than those with the fewest FSM pupils (15 per cent vs 1 per cent).*
>
> *Primary schools ... with at least 30 per cent FSM are still less than half as likely as those with up to 4 per cent FSM to be judged 'outstanding' (11 per cent vs. 25 per cent) and five times as likely to be rated 'inadequate' (5 per cent vs 1 per cent)."*
>
> **(Hutchinson 2016)**

These findings are profoundly disturbing, and are an indication that the values and structures driving leadership behaviours are not helping us solve the most difficult problems in within the education system.

The external drivers of leadership behaviours are so extreme that they are challenging the fundamental principles of public life[20]. Within this context, it becomes increasingly important to emphasise notions of 'ethical leadership' – which transcend immediate challenges and priorities (Knight 2016), and are now being taken up in earnest[21].

There are, of course, individual schools in which leaders have a strong vision based on a broad commitment to education, and demonstrate and embody everything we would hope for and expect of them. However, it is my view that this such leaders emerge *in spite of* the shape of our education system, not because of it.

QUESTION 6 – REFLECTION
- How can we decide on and then unleash, stimulate, incentivise and reward the behaviours we really want to see in our teachers and leaders?
- Where is the wrong behaviour rewarded?
- To what extent do you model the behaviours that you really believe in?
- Do you challenge others where their behaviour falls short of those expectations?
- Where can you show leadership to shape the debate in your system?

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20   https://www.gov.uk/government/publications/the-7-principles-of-public-life
21   https://www.ascl.org.uk/policy/ascl-ethical-leadership-commission.html

CONCLUSION

In conclusion, how bold will we be as the 'system architects'? Will we continue to tinker from the bottom up, as circumstance and capacity allow, or will we find ways to influence the more profound values and design principles which ultimately shape the system from the centre?

My call to action to leaders in the education sector is to find ways to work 'split screen' and to become 'bilingual'. We have no choice but to continue to work within existing frameworks, but must also find ways to innovate, lobby, influence and challenge at every stage of this process, from the fundamental values on which we base our structures, through to the everyday behaviour of individuals.

7.
SUCCESS IN THE 21ST CENTURY: THE EDUCATION OF HEAD, HEART AND HAND

by PETER HYMAN

THE WORLD OF OUR CHILDREN

Politicians tap into disaffection with globalisation through increasingly extreme 'post-truth' politics. The internet is filled with reservoirs of eye-opening information but also with news that could be real or fake.

The 100-Year Life, a new study by Lynda Gratton and Andrew Scott (2016), makes clear that, with people living so much longer, an education weighted to the start of life will not be sufficient: it will need to be topped up at regular intervals, changing the way we see learning.

Human ingenuity and destruction screams at us from the media: 'World's first baby born with three parents'; 'Most advanced AI robot admits it wants to destroy humans'; '230 million migrants worldwide'; 'Disasters linked to climate change increase risk of war'.

We are living in an age of extraordinary new opportunities, an increasing number of perils, a bewildering amount of information and a series of troubling moral dilemmas.

While there is huge uncertainty about the future, the sorts of skills and attributes that are going to be in ever-greater demand are becoming clearer: communication and interpersonal skills, problem-solving and idea generation, collaboration and networking, analysis and synthesis, creativity and agility – all underpinned by the need for a strong moral compass in situations of greater complexity and ambiguity. It is also clear that a foundation of high levels of literacy and numeracy are essential, and expertise in science, maths, computing and design will be highly prized.

So how are education systems around the world preparing young people for this complex world? There are at least six different approaches driven by context and ideology.

The challenge of universal education. It is worth remembering that there are many parts of the globe where training enough teachers, building enough classrooms and getting enough children to attend regularly are Herculean tasks.

Getting the basics right. There are plenty of parts of the world, including the inner cities of developed countries, where a 'behaviour and basics' model is seen as the best solution to these fresh demands. This deficit model, often resulting in boot-camp style schools, is about teaching children strict boundaries and the benefits of hard work. The basics of literacy and numeracy fill most of the curriculum. Charter schools in the US have led the way and have often responded to generations of underachievement in an area. Regimentation works for a time. But when students have to operate in a new environment – in a workplace or college where they have

to use their initiative – they can't cope because they are so used to being told what to do.

A broad, academic education. In most developed countries there are hundreds of schools working hard to provide an education that is 'broad and balanced', touching on around 10–12 subjects that are all given small amounts of time in a weekly curriculum. A bit of geography is followed by a bit of science followed by a bit of maths. At these schools the academic is what is assessed and, ultimately, where the emphasis goes. As soon as high-stakes tests loom, the curriculum shrinks and the exam factory kicks in.

Specialism. The response of some schools is to focus on one aspect of the growing challenge and do it really well. There are excellent selective 'micro-schools' in the US and elsewhere for coding or design or science. Some schools in the Middle East are advocating a tri-lingual education: English, Arabic and coding. Specialism is becoming very attractive to those who know what they really want to do later in life.

Real-world learning. A number of schools in Canada, the US, Australia, Brazil, Denmark and Spain are making learning more 'real' by connecting with the outside world and giving students high quality work placements. Schools like High Tech High, New Tech Network, and Big Picture Schools in the US are all successful examples. By lifting the ceiling on what can be achieved, and giving students extended periods of time freed from a rigid timetable, students are producing work of real value while at school.

The search for creativity in the Far East. The systems that come top of the Programme for International Student Assessment (Pisa) tables (and who we seem to want to emulate) are in fact striving for creativity. At a recent conference in London of Asian countries, the government representatives from China and Singapore were both looking at ways they can inject creativity, agility and curiosity into systems they realise are effective on one level – powered by the work ethic so deeply ingrained in their cultures – but are sorely lacking if they are to be world leading economies in the 21st century.

SO, WHAT IS THE RESPONSE IN THE UK TO THESE SWIRLING FORCES?

Increased diversity, while not without its problems, has produced the potential (if not always the reality) for innovation, with a growing variety of specialist schools in particular.

However, the predominant feature of the UK system is that it is too rigid. We seem to believe as a nation that more exams with even higher stakes is the route to a better education system. Of course, it is merely the route to getting better at taking exams. All incentives, time and energy are skewed into playing the exam game. Recent changes have meant, in some cases, double the amount of content to get through in the same amount of time. The result is that there is only surface teaching, rather than in-depth wrestling with key ideas. Many exams, like the new English GCSE, now require the memorisation of large passages of text – memory skills being prioritised over analytical or creative skills. The new accountability measures mean that the curriculum is stuffed full of exam subjects with no room for non-examined parts of the curriculum like music, art and drama. Ofsted, once useful in lifting the floor on school performance, is now the most overbearing education inspectorate in the world and is a constraining force on innovation.

In short, we have a one-dimensional education system in a multidimensional world.

THE EDUCATION OF HEAD, HEART AND HAND

The 21st century demands so much more in terms of agile thinking than the old tramlines of education, which will leave young people floundering.

We need a different course – an education for head, heart and hand.

- **An academic education (head)** that gives people in-depth knowledge of key concepts and ways of thinking in science, maths and design, as well as history and culture. This knowledge should be empowering knowledge, knowledge that draws on 'the best that has been thought and said' from the past, as the cultural critic Matthew Arnold advocated, but importantly it should be shaped and applied to the needs of the present and future.
- **A character education (heart)** that provides the experiences and situations from which young people can develop a set of ethical underpinnings, wellhoned character traits of resilience, kindness and tolerance, and a subtle, open mind.
- **A can-do education (hand)** that nurtures creativity and problemsolving, that gives young people the chance to respond to client briefs, to understand design thinking, to apply knowledge and conceptual understanding to new situations – to be able to make and do and produce work through craftsmanship that is of genuine value beyond the classroom.

To achieve this multi-dimensional education will require fundamental changes in the way schools are run. A revolution in curriculum planning, timetabling, the role of the teacher and, perhaps most of all, our attitude to young people.

These are some of the design principles, many of which we have begun to follow at School 21, a new school for students aged 4–18 in Stratford, East London, one of the poorest areas of the country.

THERE IS AN UNSHAKEABLE BELIEF THAT STUDENTS ARE CAPABLE OF PRODUCING WORK OF REAL VALUE WHILE AT SCHOOL

At School 21 we believe in young people. We do not see them as thugs to be civilised. We believe that respect, rather than compliance, is the glue that builds a strong learning community where young people can grow, explore, make mistakes and get stronger. Schools have to once more become places of joy and curiosity and wonder and possibility. Yes, we need routines and boundaries and clear expectations. But they must be for a bigger purpose: to liberate the potential of young people. In other words, school is not simply a grinding preparation for what comes later in life.

We believe that 'today matters': that each day at school pupils can do extraordinary things; that they don't have to wait until later in life. We prize the idea of craftsmanship. You will see a child in reception doing a portrait of a king, starting with a rudimentary picture, often something very basic, and then through critique and multiple drafts producing a portrait that is stunningly good. Much of the work pupils do is planned to support a real purpose beyond the classroom and beyond the school: year 9 maths students using their maths knowledge to campaign to stop a concrete factory being located on the Olympics Games site; year 7 pupils with low literacy levels learning to write more effectively in a science project that provided fact-files and strategies for local residents to save the habitats of local wildlife.

THE CURRICULUM SHOULD DEVELOP A RICH BLEND OF KNOWLEDGE, SKILLS AND ATTRIBUTES

Variety, depth, scholarship and real-world learning are all important components of a 21st century education that balances head, heart and hand. There is a value in short mastery lessons on grammar. A value, too, in the scholarship of studying Shakespeare, Chaucer or medieval England

in depth – not for their relevance but for their own sake. But there is also a growing case for connecting learning to the real world. Giving students real experiences and placements that develop the six attributes that, at School 21, we want every young person to have developed by the time they leave us: eloquence, grit, spark, professionalism, expertise, craftsmanship.

SPEAKING SHOULD BE GIVEN THE SAME STATUS AS READING AND WRITING

Pupils should develop the confidence and tools to articulate their ideas and critique others. We have worked closely with Cambridge University on a framework for oracy that involves the development of our strands: cognitive (being able to make an argument); linguistic (the ability to use language and idiom); social/emotional (an ability to listen and to read an audience); and physical (presence and body language). From age four upwards, we design the school to maximise opportunities for talk in a range of settings. Our assemblies are all in the round, and based on discussing and responding to key topics. We are developing 'dialogic classrooms' in which 'rich talk' aids thinking and understanding. We are giving pupils the chance to perform speeches, make presentations to expert audiences, act as tour guides, and even lead parents' evenings, so they are not sitting passively but instead present their term's work for critique. In all these ways students become more confident, reflective and dynamic – ready to make a difference to the world.

SCHOOLS SHOULD BUILD THE CHARACTER AND WELLBEING OF CHILDREN

At School 21 we believe in developing a strong sense of wellbeing, an inner strength and a self-control, the ability to bounce back from setbacks and transcend often fragile and complicated lives. We do this through coaching, through studying rich literature and through giving pupils a range of experiences that help shape their characters and personalities. For example, at School 21 year eight pupils spent an entire term doing a science and drama project on genetics. This topic allowed pupils to go deeper and learn scientific knowledge about genetics but also understand and debate thorny ethical issues. By interviewing scientists and people with genetic disorders, they built up a picture, which they then turned into a verbatim play with the title: *Is it ever right to play God?* Curiosity, not compliance.

THE ASSESSMENT REGIME SHOULD REFLECT THE GROWTH OF THE WHOLE CHILD

I haven't found a single person in education who defends an exam system that tests so narrow a set of skills. It is not right or fair or useful to judge a young person after 14 years of education on the basis of two-hour written exams. Employers are unsurprisingly beginning to discount these exams because they don't measure the things they want measured, such as problem-solving, communication skills, and agility of mind. We can do better. Drawing on the best assessments for architecture, music and languages, teachers in many countries are thinking of ways in which we can assess three things:

high-level competence in the basics (literacy and numeracy)

high-level knowledge acquisition and application in key subject disciplines such as science a portfolio of work assessed on a range of skills and attributes, from oracy to problem solving to 'grit'.

Like driving a car, pupils should take these exams when they are ready, not all in one go. Lower stakes and broader criteria for success gives a more rounded picture of achievement.

A NEW VISION OF A 21ST CENTURY TEACHER

None of the above is possible unless we think again about what it is to be a teacher in the 21st century. A head, heart and hand education requires a different kind of teacher. Instead of teachers being increasingly reduced to workers on the production line of the exam factory, we need a vision of teaching as the intellectual, layered, complex and varied profession that we know it can and should be.

We don't ask surgeons to carry out exactly the same operation on every patient, even if the diagnosis is different. We don't ask hairdressers to perform the same haircut on everyone's head. But in the current debate, some are urging us to teach in the same way, no matter the subject matter, situation or group of children. This is the fastest way to de-skill a profession. The key attribute for a teacher is repertoire: to have a toolkit of approaches, from lectures to Harkness discussion around an oval table, from philosophy for children (P4C) sessions in the round to forensic grammar instruction.

Teachers are leaving the profession in droves, their creativity having been sapped, their professionalism questioned, with little time and space to research, collaborate and delve deeper into their practice. We need to create the structures for collaboration and reflection, where teachers grow because of the constant, supportive feedback on their practice from their peers. In his book *Homo Deus: A brief history of tomorrow* (2015), Yuval Noah Harari describes a fascinating, chilling, account of a 21st century in which artificial intelligence may produce inorganic beings more powerful than humans, and where our ability to manipulate genes will transform our existence. This is a world that requires generations of young people to have a strong ethical grounding, be able to engage, analyse, empathise, and evaluate these developments. It calls for an education system that requires both more and different skills from the educator; in which schools are set up to be centres of learning not churning, and crippling accountability becomes lighter and smarter; and that lifts the ceiling on what young people can achieve. Only then will the young people of today be prepared for the uncertainties of tomorrow.

8.
TEACHERS FOR THE FUTURE: REBUILDING PROFESSIONALISM THROUGH COLLECTIVISM

by CHRIS KEATES

SUMMARY

If we are to ensure high-quality education, we need to ensure that the teaching workforce is valued, supported and empowered. This essay charts the genesis of the NASUWT, a union founded to defend the profession of teaching and to build a collective response to the challenges that teachers face, so that they can deliver high-quality education. It highlights how NASUWT is not just a trade union, but a professional network, supporting teachers to protect their profession, and to face the challenges of today, from excessive workload, to the erosion of teacher autonomy.

THE GENESIS OF THE NASUWT

A century ago, the National Association of Schoolmasters (NAS) was formed as a result of a desire among a group of teachers to challenge the current orthodoxy and defend their professionalism. This break was not without controversy – then or since – but what is clear is that the government of the time was embarking on a policy of downgrading the profession, as part of a wider policy of retrenchment in UK government expenditure. The reasons given by the 6,000 or so men who joined together to form a new union were many, but the overriding narrative was one of developing a self-sustaining network that was capable of defending their profession.

Many men returning to the profession after all the horrors of World War I were dismayed to find that very little had been done to protect their real salary levels or improve the working conditions of teachers. They saw that the roles they were returning to were not considered to be important, despite the fact that they had, in many cases, made great sacrifices. They had not given up their deeply held beliefs that it was only through the pursuit of a high-quality education provision for young people that a nation so impacted by war could be rebuilt.

They felt that attempts to equalise pay were merely a ruse to depress it. They knew that the role of the teacher had been impoverished for some time and they were confronted by a lack of willingness or ability amongst the established unions to do anything about it. They also recognised that polite requests to government were unlikely to deliver for teachers and began to think more in terms of direct action.

So the new union was born. At that time, most breakaway attempts to form unions fell by the wayside after a short period of time, but this was not the case for the NAS, which, by the time of its first annual conference in 1920, had 6,000 members and 40 active Local Associations across England and Wales.

A similar breakaway union was formed under comparable circumstances in Scotland, where following discontent amongst Scottish teachers over pay, the Scottish Schoolmasters Association (SSA) was formed in 1934.

The formation of the Union of Women Teachers (UWT) is a further illustration of how teachers, as professionals, took control of their circumstances and used collective action to fight for change. In February 1965, five young women teachers in Queen's Park Secondary School in Brighton met to discuss what to do about the appalling physical conditions of the buildings they worked in. They believed that the state of disrepair of the school buildings was analogous to the state of the teaching profession and they determined together to do something about it.

The five decided to contact women teachers in other schools, to find out if there was interest in setting up a union of women teachers committed to teaching as a career and to improving conditions in schools, and furthermore a union prepared to take positive action, if necessary, to achieve these goals. The response was immediate. By the end of December 1965, 265 women teachers had been recruited and by 1967 the first UWT conference was held in London.

An early document giving information on the UWT succinctly summed up the rationale for the new union's existence:

> *"Its formation arose out of the increasing dissatisfaction experienced by many women teachers at the way in which their interests were being represented, both to employers and the general public. The UWT was formed to combat inertia. The two main objectives were 'to improve standards in school buildings and equipment and teachers' pay and status."*

The document concluded:

> *"We believe that a union of teachers, pledged to fight against such conditions, will receive the overwhelming support of the general public and that this support will, in turn, help us to attain our correct pay and status."*
> (De Gruchy 2013)

One of the earliest victories of the UWT was achieved through a direct campaign against the pitiful state of the Brighton schools that the five founders had been based in. By passing photographs of the squalor and disrepair to the local newspaper, the UWT provoked significant local controversy that resulted in the then Conservative-controlled council significantly increasing funding for school premises within a couple of months of the campaign.

Running through the history of the NASUWT is the theme of teachers taking control and using the union as a vehicle to achieve the change they desire. The example of the growth of the NAS (and subsequently the NASUWT) in the 1960s and 1970s in Northern Ireland exemplifies this approach. Due to not being aligned with any political or religious community – unlike other unions – the NASUWT was equipped to enable teachers in their thousands to reach across divides in order to work collectively to create a better education system.

The founding stories of the NASUWT's predecessor unions underline the commitment of founder members to defending the profession of the teacher, building a collective response to the challenges teachers face and a preparedness to stand up and be counted as both teachers as professionals and teachers as trade unionists in tandem; a set of characteristics that continues to define the NASUWT to this day.

The predecessor unions had an overriding vision for developing a network of like-minded teachers, focussed on the needs of teachers and working to achieve change through collective action.

CHALLENGES THAT CONTINUE FOR TEACHERS TODAY

From its foundation to the present day, the NASUWT's *raison d'être* has been clear; to fight for, and in defence of, the teaching profession. Currently, for far too many teachers, the role just does not seem to be respected and valued in the way that it deserves to be. The defence of the profession is as relevant today as it was 100 years ago.

The union formed to improve classroom conditions for both teachers and pupils alike, a lens that focussed heavily on recognising that the wellbeing of the teacher was crucial to the delivery of high-quality education. Today, the NASUWT is responding to a crisis of health and wellbeing issues among the teaching body.

The NASUWT has developed a significant evidence base of teachers' views on the day-to-day experience of carrying out their vocation. Year-on-year, this evidence reveals a picture of teaching life, the pressures teachers face and how teachers are responding.

Thousands of teachers respond to the NASUWT's longitudinal Big Question survey. By 2018, the survey found that more than two fifths of teachers did not feel that they had control over their work; a third did not feel trusted to do the job; just over a third felt that they were not given the freedom to teach; and over two-thirds of teachers said that they had not accessed any professional development in the previous 12 months (NASUWT 2017)

Excessive workload stands out as the biggest single burden to teachers, but the problem has now become all-encompassing. When asked about their key concerns about their job, more than four fifths of teachers (84 per cent) cited excessive workload as their number one issue (ibid). The survey also revealed that more than 80 per cent of teachers believe that they are working too hard for too little reward, demonstrating the increasing dissatisfaction teachers are feeling about their jobs (ibid).

Worryingly, this is taking a significant toll on teachers' lives. The survey asked a series of questions about teachers' perceptions about their work-life balance and the impact of their work on their family lives. Again, the majority of teachers are in agreement about the effects that their jobs are having. Sixty-nine per cent of teachers say that their job prevents them from giving the time they want to their partner, family or friends, and more than half (52 per cent) say that they are often too worn down to give the job their best effort. That seven per cent of teachers said that the impact of their job has led to a relationship breakdown should set alarm bells ringing (ibid).

This is fast becoming a health crisis too. Three quarters of teachers (75 per cent) state that they have experienced more workplace stress in the last 12 months. Teachers report a range of negative mental and physical problems as a result of work, such as loss of sleep (79 per cent), anxiousness (74 per cent), low energy levels (70 per cent) and irritability/mood swings (56 per cent). One-in-ten teachers (10 per cent) had started using antidepressants in the past 12 months and 2 per cent of teachers said that they had self-harmed in the past year (NASUWT 2017). A third of teachers (33 per cent) had seen a doctor about work-related health issues and a quarter (25 per cent) had been prescribed medication. One-in-ten (10 per cent) had undergone counselling and four per cent had been admitted to hospital.

These responses present a clear and compelling depiction of the state of the teaching profession and the downgrading of the status of teachers. Using the power of the union's network of members, the NASUWT is today using research to highlight the concerns of teachers and to challenge the actions of governments and employers. It was as a result of this work that the issue of workload was recognised as a priority concern for policymakers. Regrettably, the attacks on teachers today have led to a teacher supply crisis that is set to have an impact beyond the lives of those teachers who are affected by it.

That the issue of teacher wellbeing is no longer just a marginal issue found within the lived reality of working teachers, but has become a central part of the political discourse, is due to the NASUWT's continued and clear focus on this issue nationally and internationally.

TEACHER DEFINITION, PROFESSIONAL AGENCY AND IDENTITY

Since foundation, the NASUWT has seen the protection of the professional status of teaching as a defining purpose. Today this fight continues, recognising that the defence of teaching as a profession, in which teachers are given the agency to carry out their roles effectively, is not just a narrow, reflexive, defensive approach focussed on furthering members' interests, but is paramount in ensuring a quality education system.

Indeed, this cause is backed up by international evidence which demonstrates not only that *'the quality of an education system cannot exceed the quality of its teachers and principals' (*OECD 2011) but also that empowered or autonomous teachers are fundamental to developing student learning and that teachers who feel that they have autonomy and professional agency stay motivated and stay in the classroom.

As the OECD states:

> *"It is well documented that teachers who participate in strong mentoring or induction programmes, have autonomy in curriculum and teaching activities, collaborate with their peers and take on leadership roles are more likely to impact positively on student achievement."*
> (OECD 2016)

Furthermore, the US National Centre for Education Statistics demonstrates the importance of autonomy on retention:

> *"Teacher autonomy is positively associated with teachers' job satisfaction and teacher retention. Teachers who perceive that they have less autonomy are more likely to leave their positions, either by moving from one school to another or leaving the profession altogether."*
> (NCES 2015)

The role of the teacher in education is critical, and is all too often forgotten in political debate. The obvious fact that teachers are so important for the progress of students that they are central to the delivery of learning rarely gets coverage in considerations about education reform and public policy development.

Defending the professionalism of teaching and being increasingly vigilant against the dislocation of the teacher role is now a paramount agenda for the union. This has come to the fore, particularly in recent years, in the face of attempts to downgrade the importance of teacher professionalism for ideological reasons, despite the overwhelming evidence stressing its crucial nature.

That this dislocation is becoming a worldwide phenomenon emphasises the importance of the NASUWT's work in global institutions, including Education International and the OECD.

THE ROLE OF THE UNION IN DEFENDING PROFESSIONALISM AND EMPOWERING TEACHERS – THE FIGHT FOR QUALIFIED TEACHER STATUS AND ACCESS TO CONTINUOUS PROFESSIONAL DEVELOPMENT

NASUWT evidence shows that teachers are increasingly of the view that they are unable to exercise autonomy, something that should be a major concern for policymakers. All professional organisations intrinsically fight hard against actions that seek to supress or oppress professional expression and identity. Unions such as the NASUWT are critical in holding the line against practices that seek to reduce teacher autonomy, within school or at a policy level, through campaigning and, where necessary, the use of industrial action.

The NASUWT has made fighting for teacher professionalism a core aspect of the industrial action that has been taken since its inception. Through the development of distinctive forms of action short of strike action, the union has focussed on the needs of teachers, making it clear that through collective action they can take ownership of their vocation, define their own working conditions and reassert control over how they teach, by laying out what they, as a united body, are prepared to do and not do.

Campaigning to protect professionalism, however, requires a commitment to a definition of the profession. The union does not shy away from this, recognising that it is important to insist that all teachers meet nationally relevant professional standards and expectations in order to work as qualified teachers. High standards of entry into the teaching profession are also a necessity if we are to meet the increasingly challenging, complex and sophisticated demands of teaching and learning in the 21st century.

As an example, recent government policy in England and Wales to allow schools the freedom to appoint unqualified personnel permanently into teaching roles fundamentally undermines the status of the profession. The NASUWT believes that every child has a right to be taught by a qualified teacher and, therefore, the recognition, promotion and continued strengthening of the Qualified Teacher Status (QTS) is essential to our education system.

The NASUWT continues to lead the fight against this degrading of the profession through its campaigning, industrial action and lobbying of Government. Due to NASUWT pressure, the Government has abandoned its attempts to do away with QTS altogether and is now consulting on the future direction of QTS. The NASUWT recognises this achievement but will continue to work to strengthen QTS to ensure that it is sustainable for the long term.

Other key aspects of current perceptions of professionalism for teachers has been that a majority (54 per cent) feel that their professional judgement is not respected and a significant minority have not been given the time that they need for the continuing professional development that they want (NASUWT 2017). Whilst teacher unions continue, as a matter of urgency, to press for this to be offered at a school level, the NASUWT has also recognised its own important role in supporting that space for teachers, providing much needed opportunities through its own offer, networks and structures.

While perceptions of autonomy are influenced by cultures created within schools and from government, there are alternative arenas that allow teachers to express their own identity as teachers, to develop their own pedagogical notions and to collectively express themselves.

Consequently, teacher unions are playing a vital role as organisations and networks for teachers. The OECD identifies knowledge base, autonomy, and peer networks as being critical for the understanding of teaching as a profession (OECD 2016). Unions that are exclusively for teachers are acting to develop the knowledge base and peer network aspects of the profession, through specialised conferences, distinct communities of practice such as primary and secondary teachers, and geographical memberships through our branch associations and regional structures. These structures are harder to maintain in generalist unions, as opposed to a specialist union for teachers, and these networks have the potential to be the lifeblood of the profession, ensuring that such a critical aspect of the role, as the OECD identifies, is developed and renewed. Once more, it is clear that unions, such as the NASUWT are leading the way in bringing teachers together to discuss and act upon the issues that matter to them.

THE NASUWT AS THE ULTIMATE TEACHERS' PROFESSIONAL NETWORK

The current context that teachers find themselves in demonstrates the importance of teacher trade unions within the education system today. Policies have left schools cast adrift, including fragmentation of the system and financial austerity. Teachers are increasingly bereft of traditional systems of support within their areas, other than from their own unions. This is added to in many cases by the rise of education employers, such as academy chains, that are no longer constrained by local democratic structures, creating a deficit of interaction between teacher and employer other than through formal employed structures. The general impact of continued government-led reform throughout the UK has been draining for teachers, creating further dislocation and stress to the system.

The NASUWT has also had to rise to the challenges and meet the opportunities presented by increased devolution at a national and local level. The fact that the union has been able to do so is because of the strength of its collective core and its responsiveness to the differing needs of all of its members.

The traditional union term 'collectivism' is often used without context. For the NASUWT, collectivism is closely linked to similar terms like collegiality and collaboration. The NASUWT believes in a 'new' collectivism of teachers as professionals working together in common purpose for the common good. This collectivism is not passive, as it involves standing defiantly against those that seek to undermine the profession. Fundamentally, we believe that it is through a renewed sense of collectivism that the challenges of loss of autonomy, damage to wellbeing and degrading of the profession can be confronted.

The union is responding to the new education landscape by rebuilding collectivism through a strong and coherent organising agenda, which recognises the changing and insecure world that our members now find that they are in. The union is reinforcing its organisation by growing its network of workplace representatives and training them to support members to both protect their terms and conditions and to ensure that their professionalism is respected by those with the responsibility for managing and running schools in the new fragmented education system. Building on the union's strength in campaigning and negotiating effectively at a national level, the union has developed new ways of responding quickly to member requirements as they face challenges locally in their workplace.

The union is also responding to its own growth, going from a membership of approximately 100,000 25 years ago to 300,000 members today. As a result of the NASUWT's continued focus on teacher engagement, that growth has demonstrated the union's strength in promoting the needs and experiences of the classroom teacher.

At the same time, the NASUWT recognises that collectivism is also about the union's own actions that contribute to developing the teacher's sense of professionalism.

The origin of trade unions as craft unions has been critical in developing and maintaining the identity of those to whom they belonged, largely growing from the idea of guilds in the medieval/renaissance periods. Trade unions have for many years fulfilled a role in offering training to members and providing collective space to allow professional discussions to flourish. Within this context, teacher unions have a distinct role in co-delivering professional development by allowing teachers the space and structure to feel empowered within a peer network process.

Indeed, we would argue that the NASUWT, founded on a central notion of collectivism, inherited from the lifeblood of its predecessors, owned by and run by the members, for the members, is in many ways the ultimate professional network. As the union defines, supports and builds its role as custodian, if not guardian of the profession and role of the teacher, its role becomes even more essential to ensuring that the teaching profession is fit for purpose in delivering the high-quality education that society needs.

9.
EDUCATION FOR A HEALTHY DEMOCRACY
by JEREMY GILBERT

What is democracy? What does a healthy democracy look and feel like? And what is the role of education in making it possible?

Put simply, democracy is a name for any situation in which groups of people are able to make decisions together about the things that affect them, and to enact those decisions. This sounds simple, but every element of this description is important. Democracy is not just about allowing individuals to choose a set of options from a menu; it is about enabling them to make decisions with others as a group.[22] It does not mean politicians or managers consulting them occasionally: it means allowing people to actually participate in meaningful decision making. It is important to keep in mind here that every group is inherently complex, and every decision-making process is to some extent open-ended and creative (Gilbert 2014). Nobody can see the future, and nobody ever really knows with absolute certainty that they have made the best possible decision. This applies whether we are talking about a group of friends planning a picnic, or about a nation deciding whether to go to war.

What has this got to do with education? On one level, the answer is obvious. Education for a complex world in a supposedly democratic society must seek to equip students with the capacity to handle complexity and uncertainty; to deliberate with others exhaustively; to solve problems creatively; and to reach decisions on the basis of the best available evidence. On a more abstract level, ideas about how we should do education are often implicitly informed by ideas about how we should organise any kind of group or social institution, or indeed our society as a whole. In fact, a useful way of understanding the forces shaping education policy in recent years is to see it as a battleground, on which two quite different sets of assumptions have faced each other.

THE PROGRESSIVE IDEAL
On the one hand, the progressive tradition, which drove educational reform for much of the 20th century, has always been committed to an idea of education as an inherently collaborative process, whereby the cooperation of students with one another and with educators is crucial to the achievement of desirable outcomes. This tradition regards education as a process that is inherently creative, open-ended and experimental. It is also committed to the view that education is a good in itself, helping people and whole societies to become happier and more productive in multiple ways, many of which cannot easily be quantified.

These have been the core assumptions informing most progressive thinking on education since the 18th century.[23] They underlay such key 20th century developments as the comprehensive school movement in the UK and the

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22   I'm always grateful to Alan Finlayson for this metaphor
23   See (Warde 1960) https://www.marxists.org/archive/novack/works/1960/x03.htm

shaping of the US high school curriculum, and have remained crucial elements of systems of professional training, as well as the shared belief system of most professional educators to this day. They have also been key assumptions of those who have reflected on the question of how education should contribute to empowering democratic citizens. As early as 1961, for example, the critic and theorist Raymond Williams argued that any democratic society ought to ensure that school provides students with some direct experience of how to conduct and participate in decision-making meetings. Indeed, when Williams wrote this, there had already been significant and successful experiments in certain British schools, (such as St George's-in-the-East School in Stepney, under the pioneering headship of Alex Wood, or at a number of Quaker schools around the country) using democratic methods to involve staff and students in the management of schools and the design of curricula, going on for several years (Fielding 2005).

NEOLIBERAL SCHOOLING

By contrast, government education policy has, since the 1970s, been driven by a set of agendas that run contrary to these progressive assumptions. Firstly, it is assumed that education is best understood as a kind of retail product of which students and parents are customers, and which teachers and institutions sell to them. Secondly, it is assumed that competition – between students to secure the best outcomes for themselves as individuals, between individual teachers, and between schools – is an inherently good thing that will always produce better results than co-operation and collaboration. Thirdly, it is assumed that educational outcomes can be easily quantified and measured and that publishing quantitative data – and ranking schools, teachers and students accordingly – will provide useful and transparent data to consumers, government and the wider public.

Underlying all of these assumptions is a wider set of ideas about the kind of society that schools are supposed to help build, and ultimately about the fundamental nature of human beings and their social interactions. Schools, colleges and universities are expected to function as key mechanisms in the production of a 'meritocratic' society, in which the unique talents of individuals are recognised and cultivated, while social status and material reward are distributed according to the combination of talent and effort which each individual demonstrates (Littler 2016). 'Talent' is assumed to be more or less randomly distributed within the population and to be easily identifiable, while effort is assumed to be something that each individual has a more or less equal opportunity to exercise.

These ideas are based on the assumption either that human beings are inherently self-interested individuals, seeking to maximise their own material advantage at the expense of others in almost all situations, or that they have a tendency to collective and individual inertia which can only be overcome if they are forced to compete with each other for rewards by the intelligent engineering of rules and institutions. As such, creating institutional arrangements that encourage competition between individuals and between institutions is assumed to be the best way of achieving social outcomes in almost any situation whatsoever. It naturally follows from these assumptions that privatisation is often the best thing that governments can do for public institutions, because the rigour of the marketplace and the exigencies of profit-seeking will naturally tend to push them towards more competitive behaviour, as well as to seek out administrative efficiencies wherever possible (Harvey 2005).

These assumptions have informed not just education, but economic, social and welfare policy since the 1970s, both in the UK and abroad. Of course, absolutely all available evidence demonstrates that these assumptions do not generate effective education policy (Olssen et al 2004). Standardised testing and league tables do

not generate better outcomes for parents or students (Sammons 1999). The Finnish education system is widely regarded as one of the most effective in the world, and is the one still most shaped by progressive principles and the least touched by neoliberalism (Doyle 2016). 'Talent' and 'intelligence' are not qualities that can be measured like height or weight (Connor 2012). Yet governments in both the UK and the US, and across the political spectrum, have been wedded to neoliberal ideas about education since the 1970s, all the same.

HOW DID THIS HAPPEN?

How did governments of almost all political stripes become committed to this agenda? In the UK, its decisive turning point was Labour Prime Minister Jim Callaghan's notorious 1976 speech at Ruskin College (Berliner 2013). This speech was widely understood as a clear statement that things had gone too far in the progressive direction and away from a vocational, industry-led, centrally-controlled and quantified system of teaching and education management.

The speech occurred at a crucial moment in British political history. The Labour government, faced with the most intense social conflicts since the 1920s, had a choice. It could have listened to the radical and democratic demands being made by militant workers, women, young people, black people, gay people and many others for greater levels of both personal autonomy and opportunities for collective deliberation and decision-making, in workplaces, community institutions, local government and public services. But to have done so would have pitted Labour against powerful interests including the Confederation of British Industry (CBI), the City and Wall Street. Instead it chose to try to stabilise the situation, defending capitalist interests while trying to align them with those of 'traditional' male industrial workers. The authority of the trade union leaderships was defended, as were the privileges accorded to major manufacturers, but little support was forthcoming for the democratisation of public services and workplaces (Medhurst 2014).

At that time, maintaining a radical direction for education would have required continued financial support for those radical experiments in progressive, democratic education, which were already taking place in increasing numbers of state schools from around the end of the 1960s. At schools like Counteshorpe in Leicestershire, school councils involving staff and students would make key decisions about policy and curriculum, while efforts were made to tailor individual learning programmes to the needs of each particular child. But such progressive education is necessarily resource-heavy and the Callaghan government was about to embark on the first major austerity drive since the war.

Under those circumstances, there was no way that funding for progressive education could continue. The most radical schools of the 1970s, such as White Lion in Islington, found themselves forced to conform to the strictures of the state system or, eventually, to close completely.[24] By the mid-1980s it had become possible for critics to point to a record of persistent failure in progressive institutions, despite the fact that this narrative simply ignores the question of resources as well as the very impoverished social context that these schools were operating in. This story of progressive 'failure' is still easily repeated by opponents of progressive schooling to this day (Yarker 2014).

The Thatcher government, of course, endorsed this reactionary narrative. More disappointingly, by the 1990s it was an account that New Labour policy-makers were also willing to believe, determined as they were to distance themselves from any of the radical legacy of the 1960s and 1970s. Unwilling to countenance

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24   See, for example, de Castella 2014 and Watt 1977

any return to that agenda, and lacking any original alternatives of their own, by the early 2000s Labour policymakers had embraced the neoliberal agenda in education almost without reservation. While they increased funding to schools, they also intensified and enlarged the role of league tables, standardised testing, and semi-privatised provision.

It is surely no accident that this period coincided with a precipitous and well-documented decline in political participation, especially on the part of the young. The neoliberal education agenda is not just designed to produce schooling on the cheap, but to produce the kind of people that neoliberalism thinks we all should be. Of course, the teaching profession has always resisted these imperatives heroically, which is a major reason why so many of our young people are still able to escape them. But there is inevitably a limit to how far teachers and headteachers can defend their students from an agenda that has been supported for decades by both governments and corporations. Its ultimate logical end is the production of citizens who do not think of themselves as citizens at all, but only as consumers. One logical correlation of this vision is a sort of retail politics, practiced according to the classic Bill Clinton strategy of appealing to discrete interest groups (eg 'soccer moms')[25] while eschewing any wider vision of a good society[25]. The trouble is, when faced with major systemic problems – climate change, massive inequality, the social consequences of mass migration – this model of politics simply cannot generate solutions. In 2016, we saw what tends to fill the vacuum left when this consumer model of politics implodes. We have never needed more urgently a vision of education which could help to revitalise our democracy and empower our citizens collectively.

WHAT IS THE ALTERNATIVE?

Labour policy over the past two years has made huge strides in a progressive direction. The party's commitment to a National Education Service marks an explicitly rejection of the neoliberal agenda in favour of a return to seeing education as a universal service and a public good in its own right (Benn 2018). Labour's opposition to excessive testing and to the further extension of the academies programme also represent a decisive turning point. As of yet, however, it is unclear whether Labour's vision of education in the 21st century will be as radical and democratic as the times demand, or whether it will simply seek to return UK schooling to something like the 1960s' mainstream comprehensive model.

It is worth considering here how much British and global society has changed since the 1970s. In the era of social media, instant communication and free information, there can be little doubt that students need different things from education than they did in the middle decades of the 20th century. Even then, some of the most successful experiments in schooling were those that aimed at enabling students to become competent democratic citizens of increasingly complex societies. Students clearly need those skills, and an educational experience that enables them to negotiate a complex world of power relations and information-flows, even more than they did then.

 In a culture dominated by the power of Google, Facebook, YouTube and Amazon, young people are in great danger of being subject to intense pressure to behave

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25 Although the Clinton policy of 'triangulation' (and with it the identification of 'soccer moms' – suburban middle-class housewives – as one among several crucial constituencies of swing voters) began with the 1996 US Presidential election, it continued to define mainstream Democratic thinking up to an including the 2016 Presidential Election. Perhaps the most explicit statement of the strategy and its socio-political assumptions was Mark Penn & Kinney Zalesne's 2007 book *Microtrends: The Small Forces Behind Tomorrow's Big Changes*. Penn, a 1990s Clinton team veteran, was still a key figure in Hilary Clinton's 2008 campaign bid and the influence of this approach was still clearly discernible in her 2016 strategy.

in entirely unhealthy and self-destructive ways, obsessing over their social-media personas, consuming and reproducing conspiracy theories and other fantasies, all in the service of corporate data-collection and hyper-consumption (Zuboff 2019). Education could help them to overcome this danger not just by supplying them with warnings about the risks of online grooming and cyber-bullying, but by giving them positive experiences of working with peers and mentors creatively, democratically, constructively and collectively: experiences that would simply leave the world of online alienation seeming less seductive by comparison.

What would schools with such objectives actually look like? It is very encouraging that a number of different contributions to UK education policy debates have, in recent years, converged upon a quite consistent set of ideas and proposals for a radical reinvigoration of public education for the 21ST century. Michael Fielding and Peter Moss (2010) – both senior professors at the Institute for Education, University of London – provide a well-argued and well-evidenced case for a model they call 'the common school', drawing on the best and most successful practices developed in radical community schools going back at least to the 1940s.

Central to such schools are forms of democratic governance that involve students, parents, teachers and other members of the wider community in the management and administration of the institution and curriculum. This has to be a central feature of any progressive alternative to neoliberal education for several reasons. Firstly, in any supposedly democratic polity it is almost self-evident that schools ought to give students some actual direct experience of democratic self-organisation. Secondly, as Fielding and Moss argue, democratic participation is the only mechanism likely to give parents and students a truly justified confidence in educational institutions that league tables, standardised tests and other external performance measures never actually can. Thirdly, democratic participation can give full-expression to the inherently collaborative, inventive and creative nature of all effective education. (Gilbert 2014; Fielding and Moss 2010).

A recent IPPR report identified a number of areas of good practice in some contemporary schools consistent with the same set of principles, arguing for a new generation of 'citizen schools' (Audley et al 2013). The Compass Education Inquiry similarly concluded with a specific call to democratise the management of local education service and promote greater collaboration across the system (Compass 2014). In recent years, a great deal of social policy development has stressed the importance of understanding 'co-production' as an essential feature of all public service delivery. This phrase refers to the idea that public services can never be adequately conceptualised simply as goods which are 'delivered' by service-providers to service-users, but must be understood as processes wherein the desired outcomes are 'co-produced' by professionals and service users (eg teachers and students) through collaborative relationships. As Mark Fisher and I have argued elsewhere, the principle of coproduction would imply a radical shift in the internal and external organisation of our educational institutions and an end to the dominance of league tables and standardised testing (Fisher and Gilbert 2014).

Is any of this really achievable? It may sound utopian to believe so. But reflect on this. When I was at school in the 1970s and 1980s, our parents and teachers told us stories of the 11-Plus and the pre-comprehensive era in the same tone that they would tell us that children were once sent to work in coal mines. It would have seemed then unthinkable to any but the most rabid right-wing ideologue that the kind of return to elitist selection practices and standardised testing, which has characterised the worst of the current era of education, could ever come about. There is no reason why we cannot fight back against neoliberal influences in education in a more organised and deliberate way than we have done so far. For our children's future, and the health of our democracy, it is imperative that we do so.

10.
THE ASIAN CENTURY AND THE ROLE OF EDUCATION IN POST-BREXIT BRITAIN

by DR WINNIE KING

After more than four decades as part of the European Union (EU), June 24 2016 represented a watershed for the UK as it took the decision to break away. As the government looks to carve out a path for separation from the EU and its single market, Brexit forces the UK to look beyond the EU in order to secure economic growth and maintain political significance. This does, though, require a clear vision of what kind of post-Brexit Britain we want to create.

Following the referendum, Theresa May declared at Davos that her government aimed to look beyond Europe and establish a 'truly global Britain' (Wright 2017). Though the Johnson government has yet to set about establishing its own approach post-Brexit, Johnson cannot avoid the reality that this rests upon solidifying bilateral relations with countries near and far —most fundamentally the construction of new free trade agreements. Within this context, the most logical step is to continue down the path forged by the Cameron government of deepening ties and strengthening relations with the Asian region, in particular with China.

Renowned for decades of economic success, double digit growth and their rising geopolitical significance, the strength of the Asian economies represents a significant shift in global economic and political influence, leading many to declare the dawn of an 'Asian Century' (Arrighi 2007). This was perfectly reflected in Britain's relationship with China under David Cameron, which the Chinese leadership elevated to a 'Golden Era' status in 2015 (King 2016). For more than a decade, the UK has undertaken significant investment to build up its knowledge of China, including developing cultural and academic exchanges, entering into major economic and investment agreements, and establishing language and cultural training centres—initiated by both the British (The White Rose Centre in Leeds and Sheffield) and the Chinese themselves (Confucius Institutes).

While engagement with China is widely thought to be in the UK's national interest, wider strategic questions remain about what this means in practice. Gaskarth (2014) for example, argues that Britain's foreign policy is 'lacking a sense of overarching national goals or a systematic consideration of how to achieve them'. We need to recognise that, as a crucial vehicle for constructing a foundation for a strong economy, including a skilled population and innovative industrial sectors, something as benign as education policy is indivisible from Britain's national interest. We may have much to learn from China, where educational reform plays a fundamental role in guiding its development. But how, and what can we learn from China and its experiences? What *should* we learn? What role should education play in supporting China-UK relations? And to what end?

China's successes in the field of education has understandably led some countries, including the UK, to look east when searching for lessons they can apply at home. However, significant cultural, ideological and normative differences necessitate

a considered approach: we must assess the transferability of education practices within the context of Britain's own future and domestic objectives.

WHY ASIA?

Although we have yet to reach an 'East Asian-centered world-market society' (Arrighi 2007), the rising significance of the Asian region and its role in transforming the world's geopolitical and economic power balance cannot be understated. These emerging economies have been the driving force behind world economic recovery since the global financial crisis of 2008 and, as such, will play an important role in determining the UK's place in the world should it leave the EU.

Within the context of post-Brexit Britain, Asia provides opportunities to offset the potential loss of European resources, trade and investment partnerships, talent and networks. China, '…the world's single largest contributor to world growth since…2008,' (World Bank 2019) is forecast to take up the mantel of the world's largest economy by 2030 (Standard Chartered 2019). It is therefore a valuable partner for Britain's continued economic and industrial growth. Between 1993 and 2017 China's share of global GDP rose from 1.7 per cent to 18.2 per cent (ONS 2019), while its non-financial overseas direct investment in 2017 amounted to $120.8 billion (China Ministry of Commerce 2018). While the US has taken a protectionist turn under President Trump, including a Sino-US trade war raging since 2018 and growing calls for Western unity on banning China's high-tech firms (in particular Huawei) on grounds of national security, Britain has taken steps to distance itself from America's hardline stance on China. Despite the potential implications for the UK-US 'special relationship', May's decision to green light Huawei's participation in non-core aspects of Britain's 5G data network and former chancellor Philip Hammond's efforts to link the UK to China's Belt and Road Initiative (FT 2019), reflect the opportunities China represents for Britain.

China-UK relations are flourishing. China is the UK's second largest trading partner outside the EU and accounted for a record £22.3 billion of UK exports and £45.2 billion of imports in 2017 (House of Commons 2019). Chinese tourism contributes an estimated £500 million per year to the UK economy.

Beyond this is the need for Britain to capitalise on Chinese economic growth beyond limited job creation and investment. Education policy and links could be well placed to make a real contribution to make which could last decades into the future. The key question is how.

UNDERSTANDING EDUCATION'S ROLE IN CHINA: PLAYING THE LONG-GAME

The UK government and education leaders must form a deep understanding of how and why the Chinese do what they do within their education system, before they will able to grasp what this could mean for the UK's own national priorities.

Efforts to boost China-UK relations have already resulted in some investment in education and training in the UK. In 2006, for instance, the UK government funded the establishment of two research centres focusing on Chinese Studies (the White Rose East Asia Centre and the British Inter-University China Centre).[26] The initial five-year projects promoted the study and teaching of Chinese history, politics, sociology, development, economy, diaspora, philosophy and arts. In recent years, further investment at the primary and secondary school level has seen schools bring Chinese into the curriculum and engage in wider cultural outreach, including through efforts to emulate and adopt Chinese teaching and learning methods. A high-profile example was that of Bohunt School in Liphook, Hampshire – site of the

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26   The White Rose Centre saw cooperation between Leeds and Sheffield University, while the BICC was a collaboration between the Universities of Oxford, Manchester and Bristol.

BBC documentary *Are Our Kids Tough Enough?* – where students were immersed in a curriculum and teaching methodologies typical of those experienced by Chinese students (Jing 2016).

While interesting experiments, these initiatives often miss the historical and cultural legacy behind why China, and many Asian countries, *are the way they are*. The nuances of China's success in maths and sciences, the reason why students and graduates adopt such a rigorous approach to learning, and how this has translated into the economic successes that it has for China, are all the product of a long-term strategy and investment by the state, and the response by its citizenry.

China's model of economic development (a version of the Asian Development Model) places education and the development of human capital at the centre of national development and growth.

Following generations of war and political fragmentation, the Communist party moved to rebuild its economy, but was burdened with a low-skilled and uneducated population. In 1949 China had a literacy rate of just 15–25 per cent;[27] by 1982 – three years after the initiation of economic reforms with the 'Open Door' policy – this reached 87 per cent (IMF 2003). The Chinese government knew that economic modernisation and the establishment of a strong and independent nation required a skilled and educated workforce. It was with this mindset that the Chinese leadership placed its most valuable resource – its population – at the centre of its strategy for national economic development.

It has achieved this via a four-pronged strategy.

First, investment in education has been consistently high. Throughout the 1990s the Chinese government (central, regional and provincial) maintained an impressive total investment in education of 3 per cent of GDP (rising to over 5 per cent in 2011), with the central government's share rising from approximately 2 per cent of GDP in the 1990s to over 4 per cent in 2012 (Asian Development Bank 2016). The size of the Chinese economy and the rate at which it has continued to grow allowed this level of investment to be maintained.

Second, in addition to general investment, China targets funding towards privileged sectors, industries and technologies deemed strategically important for national development. Collaborative projects and joint ventures between universities (which are state-run) and private corporations or state-owned enterprises, as well as and foreign investment projects are common. The state system ensures control over projects, including the direction of research and access to projects' outcomes and technology. Whether providing funding, facilities, access to resources and talent, or licensing, the government typically maintains authority and jurisdiction over any resulting intellectual property, which is then applied to develop the military, industrial, technological, and healthcare sectors (to name but a few). This means that state education and training efforts are not limited to China's youth. As the leadership moves to upgrade its economy, and shift away from sunset, labour intensive industries (such as steel and textiles), China has moved to retrain its workers for reallocation towards its expanding services sector (Reuters 2016).

Third, education, as part of China's social infrastructure, actively contributes to nation building. As China's population is seen as a national resource, it follows that in China, as Lu Mai (Secretary General of the China Development Research Foundation) has stated, 'investing in human capital is seen as necessary to support the upgrading of the industrial structure and economic restructuring for China as a nation' (Lu 2012). Chinese education reforms aim, therefore, to

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27   See: http://schugurensky.faculty.asu.edu/moments/1949china.html

coordinate skills development with targeted industrialization as chosen by the central government.

Fourth there is a strong *cultural tradition* behind the dominant role of education in China, not just for national economic success, but also for familial livelihood. China's one-child policy has meant that a single child has, as they grow older, been responsible for supporting the household, thereby receiving all the support, attention and expectation of the entire family/household. This has contributed to a highly competitive academic environment. For example, in Shanghai 80 per cent of primary and secondary students have after-school tutors and over 84 per cent of teenagers go on to university (Sharma 2011). China's success in reading, maths and science – as indicated by international rankings – are therefore the product of more than just transferable teaching methods, but of national campaigns and programmes.

China's history of poverty, war, exploitation, and nationalism helps to explain why education policy has been a central pillar in China's economic reform process. Transferring these lessons to the UK is not, therefore, straightforward. Understanding how the evolution of the Chinese education system can help to enhance the UK's position in an Asian Century leads us to seek answers to questions such as: *why* does Britain want to engage with China? And *how* will this help the UK achieve its priorities after Brexit?

THE UK IN THE ASIAN CENTURY: PROSPECTS

The UK can play an important role in China's continued economic development and growth. The UK is currently the world's fifth largest economy, has a long history of innovation and a stellar reputation for technology and cutting-edge research and design, and has a world-leading services sector. Geographically, it's well-positioned between American and European economies, closely tied to the European market (but without the burden of the single European currency). It is also renowned for its business-friendly environment.

The British government under both May and Johnson, however, has been unclear in its own strategic objectives when it comes to China. This was demonstrated in 2016 by its mixed messages on the China-backed Hinkley Point nuclear plant, approved only after an extended delay. However, what we do now know from May is that Britain (like China) is hoping to secure its position as a strong independent economy and nation, free to make its own policy decisions and 'control its own destiny'. With projections that Britain may slide in world economic ranks to seventh place, should it leave the EU (PWC 2018), there is every indication that the right education policy can help Britain tap into the opportunities that the Asian Century presents.

The UK's education policy must be based on a clear understanding of its own national interest. Any effort to transform the UK's education system without understanding its role in a post-Brexit national vision will be both haphazard and incomplete. While this transformation would do well to learn from the Chinese experience, it must also be based on an acknowledgement that the UK has a fundamentally different resource and human capital base to China. There are, though, several lessons which we ought to consider:

- **Always learning and never dependent:** The Chinese are always learning. For them, a key aspect of education is observing other systems and discerning how they can be improved for managing their own economy and maximising the utility of their resources. The ultimate contribution of education, therefore, is to develop and maintain a strong and independent nation state. Given May's desire for a 'Global Britain', promoting a global approach to education and revising curricula to go beyond their traditional focus on Europe and the Commonwealth offers a new route to success.

- **What works for the UK?:** Don't follow a cookie-cutter approach. The UK must remain keenly aware of its unique set of experiences, needs, and resource pools, all which are integral to its own objectives. Indeed, China has created an approach to policy that suits its individual needs – namely the development model of a 'socialist-market economy', or 'capitalism with Chinese characteristics'. The UK's effort to carve its own path, independent from the EU, offers similar freedoms to choose its own priorities and targeted specializations. While the impending loss of resources and migrant skills will require new investment in lifelong-learning and training, this can be an opportunity to create UK 2.0.

- **Know what the UK needs**: In China, education policy decisions always first ask the question, 'what does China need, and is this in China's interest?'. With different demographics and a different political ideology, the UK should establish its own take on China's approach. Policy decisions should, therefore, be made with a singular aim of supporting and advancing the UK's national objectives. George Osborne's Northern Powerhouse, for instance, acknowledged the need for a more evenly-developed economy. What was lacking, however, was a corresponding education and training strategy for sustained industrial growth. For example, what sectors does a post-Brexit Britain need to succeed, and how will education support an industrial strategy which aims to have impact beyond London and the south-east? Similar observations can be made of the 2018 Industrial Strategy (Gov.UK 2018). While it does include education (ie., technical and STEM), how do we translate this into domestic industry and entrepreneurship? How do we retain this skilled workforce (native or foreign)?

- **Maximise your resources:** Across sectors, education policy is essential in transitioning the economy in the face of technological and political change, as well as enhancing the stock of national human capital. The Chinese are keenly aware of their weaknesses (including an underdeveloped services sector, an under-skilled population and growing regional inequality) and instead utilise their strengths (capital, financing, size) in order to rectify them. A sustained level of self-reflection is necessary to identify where the UK's strengths are and how an educated population can contribute to a national project.

Deepening its basic cultural knowledge of China will bolster the UK's position during this 'golden era' of UK-China relations. Indeed, utilising this relationship to counteract any prospective resource, expertise and skills shortages created by Brexit would be a shrewd move. This can only be achieved, however, formulating a tailored British approach, which recognises how China relates education policy to national interest, while being similarly strategic with our own education system.

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