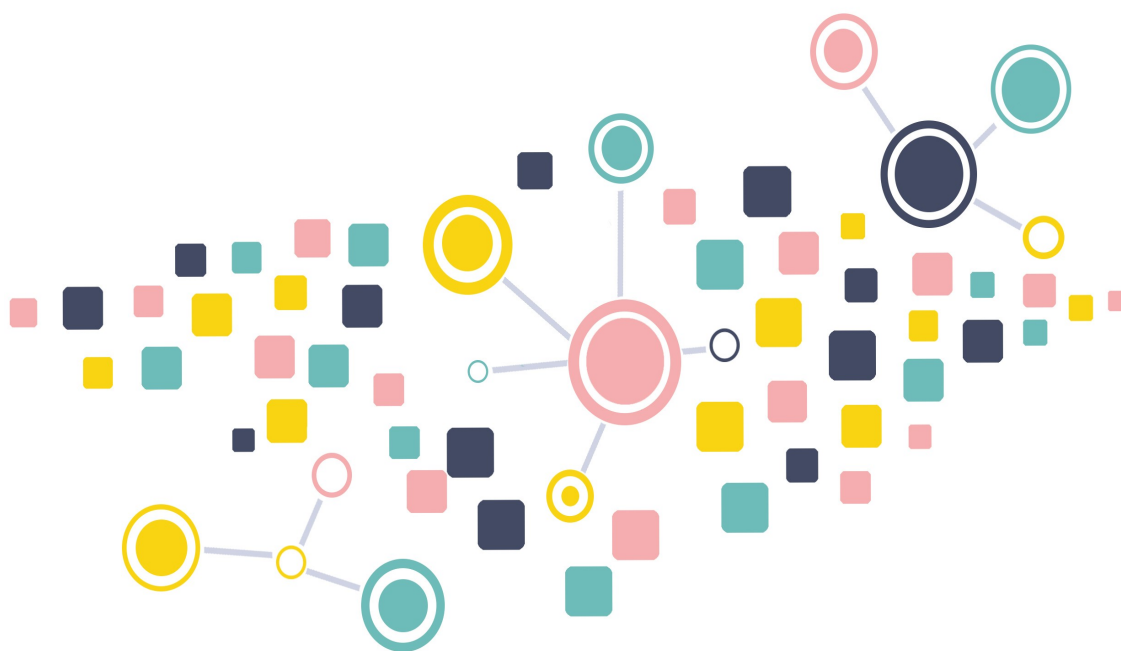


TEACHER DEVELOPMENT 3.0

How we can transform the professional education of teachers



Teacher Education Exchange

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TRANSFORMING THE PROFESSIONAL EDUCATION OF TEACHERS

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ABOUT TEACHER EDUCATION EXCHANGE

We are a group of teachers, school leaders, teacher educators and researchers who want to promote the development of teaching as a profession in the best interests of children, young people and society as a whole. We are particularly interested in how universities can support a profession-led model of teacher development. We reject the terms of the polarised debates that are currently dominant: with regard to initial teacher education, 'reform' and 'defend' positions have become so entrenched that sustainable change for the good is ever more difficult to achieve. With reference to teaching, 'traditional' and 'progressive' have become meaningless terms flung around in the echo chambers of Twitter.

In this pamphlet we promote 4 design principles that we believe are essential in transforming the professional education of teachers, both at the beginning and throughout their careers. We propose:

1. A long-life teaching profession;
2. Schools, universities and teachers at the heart of their communities;
3. Education as cultural and societal development as well as individual advantage;
4. A continuum of professional learning.

We believe we need to take a long term view about the future of schools and teaching as a profession, responding to the significant societal challenges we face. We also offer 4 key design questions for teacher educators that might help them to enact the principles of Teacher Development 3.0.

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PREFACE

This pamphlet is about how we can prepare and support teachers – initially and throughout their careers – for the kinds of schools we need. It is written from the perspectives of people who now work and study in universities having had considerable professional experience in schools. As authors, we (as Teacher Education Exchange) are concerned with what higher education can contribute to an ideal of teacher development that is profession-led. We're not interested in turning the clock back 20 years or more when postgraduate initial teacher education, particularly, *wasn't* mainly school-based. And neither are we interested in joining in with the chorus of ill-informed criticism that is so ideologically driven. But we're not interested in turning universities into super-SCITTS (School-Centred Initial Teacher Training Schemes) either.

We want to do things differently and look to the future.

The pamphlet was originally prepared for a series of workshops organised by the Teacher Education Advancement Network (TEAN – <http://bit.ly/2cJBQbR>) on the theme of 'Innovation in Teacher Education'. As such, it is intended to stimulate debate and provoke questions rather than providing a 'how to' guide. We hope that it will be useful to university-based teacher educators, in particular, in helping them to understand how they might do something genuinely innovative in the work of preparing and supporting future generations of teachers.

We also want to reclaim the word *innovation* from some of its more reductionist meanings: we are not talking about doing things 'more efficiently' or simply finessing the current design. And we're certainly not talking about 'creating new opportunities for privatisation' on the false assumption that 'the public' (as in the public universities) have failed. We're talking about doing things differently; we're talking about coming up with some new ideas that can not only do an even better job of developing teachers but can produce public value more widely; that is, ideas that can feed back into society generally for the public good.

Teacher Development 3.0 is not an academic article. However, we have provided some references at the end that may be of use and of interest. We cite a wide range of sources with a preference for the highest quality, peer-reviewed evidence.

1. INTRODUCTION

Teachers matter.

We all want children to be successful in life; to learn how to take part in society and work to change it for the better; to be healthy and happy; to participate in a wide range of cultural and sporting activities; and to carry on enjoying learning across their lifetime: fundamentally, to become confident, well-educated and active citizens. But how should we prepare teachers to create schools where this is possible, to enable all young people to realise these societal as well as individual goals?

Some people think that preparing teachers who can meet this challenge is quick and easy work. There are just a few key techniques new teachers need to learn, they say, maybe somewhere between 19 and 62 'tricks of the trade'. Combine these techniques with good 'subject knowledge' and a 'no excuses' battery of 'behaviour management' tips and, hey presto, you will have effective teachers!

We disagree. And as much as we are passionate about knowledgeable teachers who can maintain a safe and effective classroom climate, we think it is time we returned to the complexity and commitment of preparing the next generation of the teaching profession and seriously explored how we can genuinely transform the professional education of teachers.

'Teacher quality': A significant variable

We have known for some time that the quality of teaching (sometimes expressed as 'teacher quality') is the most significant in-school variable when it comes to children's learning. Although some 70 – 80% of the factors that have the biggest effect come from out of school (when children live in poverty, for example)¹, that should not stop us from being utterly committed to doing whatever we can to ensure that all children do better and have a really good education.

In the USA, some of those most eager to reform teacher education categorise

what has gone on in teacher education programmes as 'Teacher Quality 1.0' – comparing it to an obsolete piece of computer software. They say that the existing system (something they usually associate with universities) has failed to produce enough teachers and also enough teachers with the right skills to make a difference to children from the poorest families. Instead, they propose 'Teacher Quality 2.0'² – continuing the technological analogy – rejecting most if not all aspects of 'Teacher Quality 1.0' and suggesting instead either that we get rid of universities in the preparation of teachers, that we get rid of 'theory' and replace it with 'practice', or that we deregulate the system and allow new and untested 'providers' to enter a new market-place for professional preparation. In England, it's really chaotic: on the one hand, the government has proposed we abandon qualifications for teachers altogether and, on the other, they are supportive of opening up new private 'challenger' universities to do 'teacher training'³.

Inconveniently, perhaps, the evidence of success for this 'Teacher Quality 2.0' position is lacking; these reformist alternatives simply have not had better outcomes than the system they sought to make redundant. For example, the quality of teaching from participants in Teach First (a classic 2.0 programme) is no better than that of PGCE students on 'traditional' courses and they tend not to stay in the profession for as long⁴. In the USA, there is no evidence that 'independent graduate schools of education' are any better at preparing teachers than anyone else⁵ and, indeed, some states have banned them from starting up⁶.

Internationally, according to the OECD, countries that have school systems which manage to achieve good outcomes for the vast majority of students (with the narrowest gaps in achievement between children from the poorest and richest families) have strong, traditional university components in the way they prepare teachers⁷ - countries like Norway, where the professional preparation for teachers is currently being extended to a five year Master's degree provided by a smaller number of higher education institutions with high levels of research competence.

But we reject both Teacher Quality 1.0 and 2.0 positions.

We want neither to defend nor reform the existing system of teacher preparation. We don't want to turn the clock back. And we certainly don't want to make learning to teach a purely academic exercise. Why would we when there is instead a real opportunity to *transform the professional preparation of teachers*?

Beyond 'reformist' reforms: Teacher Development 3.0

We are interested in learning, rigorously and systematically, from all positions – in learning from Teach First, for example, how to appeal better to prospective teachers' altruism and ideals of social justice. And learning from the best universities about how educational researchers enhance teacher preparation and how, in turn, engagement in teacher preparation helps researchers do better research. These are just two examples. The new way forward we are proposing isn't about either/or choices.

We are interested in elaborating a new definition of the conditions that promote real teacher quality – **Teacher Development 3.0** – a definition that doesn't arise out of polarized debates and binary contradictions. Ken Zeichner, one of the world's leading researchers in teacher education, has already started to elaborate what this might mean for pre-service teacher education in the US⁸. We want to imagine what a new and different form of professional preparation and continued development might look like, one that is more effective and sustainable in developing the kinds of teachers we need for the kinds of schools we must have in the twenty-first century. We want to transform teacher development in order to achieve a new, expansive and sustainable definition of teacher quality that doesn't revolve entirely around a narrow focus on short-term improvements in test scores. And we want to understand what role universities might play in developing this definition of teacher quality.

In this pamphlet, we set out for discussion our views about what it means to be truly transformative in teacher development, to go beyond the usual dichotomies and slogans and break free of the defensiveness that can sometimes characterise talk of teacher education in universities. All of the writers have been teachers and school leaders but now work in university

Education departments. We realise that for some, our current location in universities may mark this pamphlet out as the musings of the 'Blob', as one US Secretary of Education and one English Education Secretary once described education academics⁹. We think the challenge and the need for change is much too urgent to deal in insults. We think that to meet the challenge of transforming the development of the teaching profession, we need to draw on expertise wherever it is located and form new kinds of relationships with all stakeholders. This challenge demands to be taken seriously. The time for name-calling is over.

In the next section, we reflect on what we see as **4 great societal challenges** we are facing and will continue to face with greater intensity over the coming decades. Much of the discourse about educational reform – and the reform of teachers and teaching, in particular – is premised on social and economic realities from the last century, with education policy returning most often to the past, rarely, if ever, engaging with current conditions and future possibilities. What does it mean to prepare teachers for future schools and the pressing social, cultural, economic and environmental challenges the world is facing?

Then, we outline what we call **4 design principles** for Teacher Development 3.0. We call them design principles to signal the sort of *architectural change* that is required to achieve successful outcomes for all our children. These design principles propose a shift in the way we think about teaching as a profession as well as the relationships between schools and teachers and the communities, parents and children they serve. They also remind us to consider what education is for, in the first place. The design principles also go beyond initial or pre-service teacher education and embrace a continuum of professional learning so that the impact on individual young people and society more generally can be maximised. By architectural principles we mean we are interested in more than structures; design principles speak to values and ethics, in particular - teacher development as the development of the profession.

Following the principles, we raise **4 design questions** – questions which ask us to consider what first steps we can take towards creating the sort of programmes that will allow us to embody the design principles, address the

great societal challenges and realise the ideal of Teacher Development 3.0 as a radical alternative to the ways people are currently seeking to reform or defend the *status quo*.

2. TEACHERS FOR THE SCHOOLS WE WILL NEED: SOCIETAL CHALLENGES, EDUCATIONAL FUTURES

We live in challenging times. Our settled ways of life are deteriorating; the systems we have built and the ecosystems we rely on are collapsing. The very limits of the planet we inhabit are being tested in front of our eyes; not just by corporations but by how we ourselves care for the environment. Those are the facts. How we react individually, and formulate our responses collectively, will determine how history sees us; how we manage to change will determine history itself¹⁰.

It is worth saying again that our concern in this pamphlet is to start to imagine a new and different form of professional preparation for the sorts of teachers and schools we need now and in the future. But, before we can envisage what some of the practical details of what this teacher might look like, and how we design the sorts of programmes that will allow us to realise Teacher Development 3.0, we need to consider the demands, challenges and opportunities that are characterizing this century.

Although the quotation that heads this section may sound apocalyptic, we believe that the next generation of learners (young people and their parents and teachers) are growing up in a society that does face a number of significant global challenges. In this section, we outline these challenges that any model of teacher development will need to address. Specifically, we refer to:

- The present reality of hyperdiverse and transient populations where society will need to ensure that respect for difference coupled with sustained attempts at inclusion are seen as assets for all of us;
- Environmental and sustainability challenges that are both understood and addressed by an agentic society and its schools;
- Poverty and inequality, as structural phenomena, are recognised as reducing so many people's prospects and mobility and there is a commitment to eliminate these inequalities in order to build a more just society;
- A society where technological and medical advances as well as imaginative approaches towards problem-solving present new opportunities for creating a better world.

Teacher educators in England, as elsewhere, have attempted to address some of these challenges within the constraints of the current design for initial teacher preparation and within the regulatory frameworks of a competence- (or Standards-) based approach to teacher qualification or licensure.

But we need to do more. We are facing complex and divisive questions about who we are as a nation and who we want to become, post-Brexit. Globally, many economically developed countries are becoming more isolationist and are trying to deal with polarising reactions from sections of their populations who do not believe their individual interests are being served by the *status quo*. Diversity in schools is a fact and it is a strength: it needs to become an asset from which to extend a new civic discourse and voice about who we want to become as a society and a nation. We are going to have to learn how to listen and learn from one another because we are going to have to do things differently if we are to take equality, diversity and inclusion seriously. Against the changing political background we have described, it will probably become harder for teachers to work towards these goals, at least periodically.

In economically-developed countries such as ours, it is inevitable that we will share more and more of the environmental problems and sustainability risks that are global in nature. Learning how to work with each other - locally, nationally and globally – will become ever more important. Schools and their local communities of students, parents and teachers can help to heighten awareness of these issues; indeed, schools (and, for that matter, universities) that are at the heart of their communities have a responsibility to do so. For schools and universities to ignore these issues and not to ask questions would be a failure of their democratic function as public institutions. More directly, schools have a responsibility to ensure that we are educating successive generations of the public as a whole for a sustainable future so that future generations are better prepared to tackle the sorts of known and unknown challenges that we will face. This means that teachers will need to be able to support enquiry and collaborative problem-solving activities. They will need to be politically literate as well as environmentally and scientifically aware. They will need to be facilitators of dialogue in order to build community and negotiate differences. While some professionals may have already developed

these capabilities, they will become essential aspects of teacher development.

It might be said that teachers and schools cannot do much about poverty and inequality but we disagree. First, schools can educate their communities about social injustice and can get involved in civic activities to take action. Many schools already get involved in projects based on the national charity 'Children in Need', teaching young people (albeit at times implicitly) that poverty and disadvantage are social realities close to home. But again as part of ethical and philosophical conversations, teachers can promote open questions and investigations of how to be active in making a better world and challenge some of the assumptions about poverty and about the proposed solutions. This work requires a teacher who has the capacity to be open, to promote hard and critical questioning and who has a built-in desire to keep learning and changing themselves.

The challenge of innovation

The recent film *Most Likely to Succeed* (and the book by Tony Wagner and Ted Dintersmith on which it is based)¹¹ offered a case study of one innovative way of 'doing school' and another way of teaching. Based on the experiences of High Tech High in San Diego, USA, (<http://www.hightechhigh.org/>), learning concepts, values, dispositions and skills are facilitated through extended, multi-disciplinary and collaborative project work. The work of teaching was, in part, about creating space for independence and responsibility, sometimes by allowing children to fail in order for them to learn. Modes of communication in High Tech High represented real dialogue focused on the challenges of pooling shared resources to solve collective problems rather than the 'a-teacher talks-a-student-listens' mode of communication common in the average classroom. The book and film don't shy away from showing the challenges to and critiques of this position from the perspectives of parents/carers who, understandably, often view their children's education through the lens of policy emphases on short-term measurable outcomes and competition. Overwhelmingly, though, the book and the film make a passionate claim for developing the sorts of human capabilities that will be needed to meet the

societal challenges we will face, particularly a near-future in which a high proportion of even graduate-level occupations will be replaced by technological solutions. As the film argues, it is only by working together and making new solutions for the future that the future itself is possible.

In case we think that this innovative approach to education is confined to special experiments in distant, privileged locations, it's worth reminding ourselves that some schools in England also go against the grain of much recent policy and seek to transform the conditions under which teachers and students work. School 21¹² is one example of this kind of innovative school closer to home.

If we want children leaving school with a toolkit of knowledge, ideas, attributes and skills to succeed in the 21st century, then we will need to teach in different ways. That will require a new kind of teacher – a 21st century teacher. At School 21 we have recruited the finest teachers who believe in this kind of teaching, who want to teach 'the whole child'. These teachers are coaches and mentors, project designers and subject specialists, teachers of English Language and well-being. They are collaborators and forward planners. They have a spirit of enquiry about them. Above all else they are constantly learning – reading widely, observing others, finding new ways of unlocking the potential of every child.¹³

School 21's innovative stance recognises some of the challenges we have outlined and is addressing them within the current, high-accountability policy regime in England. School 21, like High Tech High, reminds us of what is possible when we have the courage to enact our values and resist ever more narrow 'reform'-minded, outcomes-driven changes. Both schools remind us of the importance of communication, of ethical deliberation and critical enquiry in an environment characterised by care for the whole person. Where, we might ask, are the examples of similar innovations in universities' contributions to teacher development?

Recognising our limits – and the importance of sustainability

It is common for zealous and often well-intentioned reformers to make somewhat messianic statements about the potential of the school system to overcome structural inequalities within our society. A useful commentary on this tendency was made by Richard Rothstein, a research associate at the Economic Policy Institute, when receiving an honorary doctorate for services to education at Bank Street College, New York in 2015. Rothstein's words provide both a useful reminder to educators on the limits of their professional activities and a hopeful invitation to educators to see themselves as part of a wider coalition of public service professionals committed to addressing society's great challenges:

It has often been said, by self-styled education reformers, that teaching in impoverished, segregated, communities is the “civil rights” cause of our time. That notion suggests breathtaking disrespect for the sacrifices of those who fought, and continue to fight, for adequate housing, good health care, quality early childhood and community programs, full employment at living wages, and racial integration. Yet our national education policy insists that we can ignore those unsolved problems and assure children's success simply by recruiting better teachers who have higher expectations for their students¹⁴.

Rothstein's observations are also important in reminding us of the need for education – as part of wider public services – to make a sustainable contribution, that is, a contribution the level and quality of which can be maintained and developed over time. A sustainable contribution does not rely on short-termist, pressure-cooker, resource-intensive interventions; in practical terms, these interventions usually result in teacher burnout and high turnover. With reference both to our environmental and professional ecologies, sustainability is a critical dimension of Teacher Development 3.0, the 4 *design principles* of which we elaborate in the next section .



3. FOUR DESIGN PRINCIPLES FOR TEACHER DEVELOPMENT 3.0

By design principles, we mean structural issues of proportion, emphasis, balance and patterning but also, perhaps even more importantly, questions of values and ethics, aims and purposes. These principles are the foundations from which a new design for teacher development can be built.

i. A long-life teaching profession

To start with, we need to develop a long-life teaching profession: to retain, develop and reward teachers to their maximum effectiveness over a professional career. This is not a sentimental idea derived from a commitment to the 'excessive' security of public sector employment. A long-life teaching profession rejects the argument that teacher tenure is a barrier to improvement. Quite the reverse, we need a long-life teaching profession in order to achieve sustainable, positive change.

Keeping more teachers in the school system for longer and supporting them to develop the quality of their teaching is simply sound, research- and evidence-based policy. Over many years, robust studies of teacher development have shown that teachers, on average, reach their peak effectiveness in the classroom after a period of between five and eight years and are able to sustain that high level of effectiveness for a decade or more¹⁵. The precise number of years varies according to the study but it is clear that long-life teachers are consistently more effective than teach-for-a-while teachers, no matter how well-intentioned these short-term teachers may be.

- *How long do former students from your programmes stay in the profession? How do you support them to stay, if at all?*
- *How much of this support should be the responsibilities of universities and other providers of initial teacher education alone?*

Long-life teachers are able to get to know their communities and families really well over time and therefore are able to draw on relational resources that are much more difficult to access for teach-for-a-while teachers.

Knowledge of communities and families is also a part of the accumulated professional wisdom that long-life teachers bring to their work and are able to share with new entrants to the profession and teachers new to their schools. Losing long-life teachers means that the opportunities for this professional wisdom to enrich newcomers to teaching is reduced. Long-life teachers sustain the collective memory of the profession and are a rich resource that needs to be sustained, developed and rewarded. One way a long-life teaching profession can be nurtured and sustained would be by providing sabbaticals for long-serving teachers, as happens elsewhere in the world.

This is not to say that teachers who have been teaching for a long time are always right or always consistently effective. No one is. But the investment the profession has made in developing their competence over a long time is significant and perhaps the greatest potential for transforming our schools lies in the interactions between these engaged, open-minded, well-nurtured long-serving teachers and the idealistic newcomers who bring new ideas and fresh energy to the mix. It's not about the idealistic newcomers always being right either; the potential is in the interaction and, for that to happen, we need to grow a long-life teaching profession.

Teacher well-being matters

Some of the more 'reform'-minded schools and school leaders take an approach to teacher development that can be characterised as 'recruit – burn out – replace'. Often couched in the language of a crisis of social justice, the need to compete in the school league tables, improve an Ofsted grading, or even for one's country to rise up the PISA rankings, can be explicitly used to normalise excessive working hours and harsh treatment by school leaders. Teachers have to be 'up to it', to 'rise to the challenge', always 'on', jostling with each

- *How can teacher development programmes for beginning or experienced teachers work with schools and the profession more widely to improve teacher - including student teacher - well-being? How can new kinds of joint work between the profession and universities create better conditions for all teachers?*
- *What are some of the structural factors that place student teachers, in particular, under greatest stress? How much minimal stress is necessary in learning to become a professional? How much is counter-productive?*

other to demonstrate their 'moral purpose' through unrealistic working patterns and hyper-bureaucracy. Over-stressed, ill teachers who go sick and who leave teaching because of 'burn-out' (an increasing problem, according to teacher unions¹⁶), do not do the best for their students and the schools they work in.

Again, this commitment to teacher well-being isn't sentimental. 'Recruit – burn out – replace' is expensive and unsustainable, even in the medium-term. The word gets out – not just about a particular school but about the whole profession. There are only so many people who want to become teachers in the first place and then only so many who will become really good at it. Creating burnt-out teachers brings with it all kinds of direct and indirect costs for schools to bear.

Teachers cannot thrive when they are isolated and when they are frightened to speak their mind. Schools cannot thrive when teachers feel like this either. Teachers need opportunities to network with other teachers, within their own school and with other schools, and these opportunities need to be built into their working lives as part of an ongoing commitment to teachers' professional learning. Isolating teachers in silos within a school may give the impression of a more compliant staff group. But genuine and sustainable improvements will not come from within in situations like these.

Rather, it is a recipe for high levels of staff turnover and unhealthy stress, stress that can be passed over to children.

Let's get over the leadership fetish

Everyone these days in schools needs to be a leader, it seems. From the newly-qualified teacher who 'leads herself' and 'leads learning in classrooms'; to the 'middle leader'; the 'future leader'; the 'senior leader'; the 'national leader'. Some initial teacher education programmes are even presented as

- *How can universities work with schools to provide opportunities for networking and collaboration across schools, local authorities (LAs) and multi-academy trusts (MATs)?*
- *What are some of the barriers to providing these opportunities and how can they be overcome? Do we need new structures outside of universities, LAs and MATs?*
- *How might universities work with subject associations and other sources of expertise to develop the professionally useful knowledge of teachers?*

'leadership development programmes'. There are conferences for teachers about 'leading leaders'. Very often these designations emerge from a weak conceptualisation of leadership and strong attachments to forms of hierarchy. Lost somewhere in the obsession with leadership is a good idea about what it should mean to be a *professional teacher* in the twenty-first century.

This is not to say that good management of schools as organisations is unimportant nor that genuine leadership in terms of vision, values and building collegiality isn't vital either. Both are crucial to creating effective organisations that can come up with new ideas and implement them, that are self-improving, look to the future and that pass the test of time. That said, there is little evidence of direct causality between school leadership as a variable and school improvement, even when improvement is narrowly defined in terms of test scores¹⁷.

Too often, leadership has come to mean the exercise of control – monitoring fidelity to rules and routines; checking up on that which can be checked on; giving the appearance of collegiality and distributed agency but actually just delegating tasks from someone else's plan and ensuring that targets are met. As a result, teachers, often do not feel trusted to do their jobs. The high-accountability culture in many schools can encourage a risk-averse approach to professional work. Sometimes this is reflected in a staid and unimaginative curriculum, for example, which actively discourages

teachers from analysing the process of teaching and learning in any depth.

So leadership structures in schools do need to be revisited and we need to ask whether some current forms of accountability-driven leadership are killing the very professionalism we need in schools that can make Teacher Development 3.0 a reality. We also need to think about how we can resist the fetishisation of school leadership in ways that allow for the realisation of a long-life teaching profession, some members of which will *not* want a leadership role – certainly

- *If we think of teaching as professional work (i.e. work that relies on specialised bodies of knowledge with responsibilities both to develop these bodies of knowledge and act with relative autonomy), what new or different implications does this have for pre-service or initial programmes?*
- *Should pre-service teacher education programmes prepare student teachers for future leadership roles? Or should programmes prepare them to play a full part in the profession more generally?*

not on a permanent basis - in any meaningful sense. Rather than continuing to come up with new categories of leader, how can we invent a new language for being a *professional teacher* which addresses the different levels of expertise, specialisation and interests that will thrive in the long-life teaching profession?

ii. Schools, universities and teachers at the heart of their communities

Schools bind local communities together, usually in a very positive way. When terrible events propel schools, teachers and school staff into the news headlines, we see the power of the interconnections. The murder of Anne Maguire, a teacher at Corpus Christi School in Leeds, England, who was killed by one of her students, and the school shootings in the USA, such as the tragedy in Newtown, Connecticut where 20 children and 6 adults were killed at Sandy Hook Elementary School, are just a few examples of the tragic events that draw communities together. In the face of such dramatic and high profile events schools and communities come together, draw sustenance from one another to cope with tragedy, and create hope for the future.

These actions also demonstrate the way that schools, communities, parents and carers, local residents and workers are irretrievably interconnected for the good of society. What these high profile events do not demonstrate is the power that these school-centred networks can bring to support teaching and learning on a daily basis.

'It takes a village.....'

One of the best known government interventions in England was Sure Start which was set up in 1998 to give children 'the best possible start in life'. At its centre was a belief in the value of community links in educational improvement. There was an emphasis on outreach and community development in order to build networks of support for early education, families and childcare. Recent studies have demonstrated that Sure Start has had very positive effects on families and children; parents working alongside other parents and with some professional support have improved their life chances as well as building better relationships more widely¹⁸. We need to build on this approach and seek out innovative ways to carry on this type of multi-agency approach within education at all stages and for all ages.

Schools need to recognize, acknowledge and work with the social, cultural and intellectual resources within their wider communities in order to build the trust that is essential for a genuine profession of teaching. This means drawing in parents and carers to work together to build a positive learning environment for everyone in the community. It means working with faith communities, local organisations, youth workers, and local businesses and other community groups to ensure the provision of a richer more holistic education. It means ensuring that teachers' professional development (pre- and in-service) takes seriously the need to support and extend community links that will benefit everyone¹⁹. Finally, it means ensuring that student teachers are exposed to the benefits of seeing schools at the centre of their local communities – not as an add-on but as partners in making education effective for everyone. Programmes need to include attention to community awareness, identifying and creating opportunities to spend some time with local youth groups or organisations that offer support within the school catchment area. Programmes need to include more imaginative strands that deal more centrally with school-parent/carer relations and explore how to extend and reimagine these networks.

- *What can universities do to contribute towards establishing and maintaining supportive and inclusive relationships in neighbourhoods and wider school communities?*
- *How should we re-design programmes to address the role of communities and families in the lives of young people and their schools?*
- *At the programme-level in universities, how can these priorities be addressed, both in terms of design and content, for beginning and experienced teachers?*
- *How much should newly-qualified teachers know about the communities they serve? And how should they develop this knowledge?*

Working in partnership with parents and carers

Working with parents/carers in partnership should be a feature of every school and of teachers' professional education. This does not just mean teachers making discipline-related phone calls to parents or sending formal letters home. It needs a more collaborative approach where parents/carers can contribute as equals. We need to remember that schools do not always know best and parents/carers have – and deserve – their own voice when it comes to educating their children.

Community is a much-used word and can mean many different things. Schools may serve diverse communities that split into many sub-groups and that don't always support the values and principles that the school wants to promote. In fact, they may oppose them. Building community involvement is not always about bringing parents/carers and others into the school and educating them on the way things are done at the school, it's also about going out and learning from the community.

Most schools will have policy statements that underline their commitment to working with carers/parents and other stakeholders and it's important for teachers to understand how these work in practice. There is a substantial body of research that demonstrates that positive parent-school relations influence student success in school and later on throughout life²⁰. Yet while this is widely understood, it seems that very little time in university programmes of initial or continuing teacher development is now allocated to exploring this research or thinking about how to improve and refine school provision. There are many complex questions to wrestle with here.

Where do teachers come from in the first place?

Teachers do not always come from the community they teach in – especially in London and other metropolitan areas. Over the last few years, teacher education experts internationally have suggested that a predominantly white, female, monolingual teaching workforce does not necessarily serve the children and young people of diverse populations well. By this, we don't mean that young, white women shouldn't go into teaching. Rather, we are suggesting that all teachers should be prepared to develop their knowledge of the cultures and language groups in the communities in which they teach and to recognize their own difference as likely outsiders to these communities and also, potentially, their status as members of dominant cultural groups²¹.

- *What imaginative strategies can we build into pre-service programmes to ensure awareness and familiarity with aspects of best practice in this crucial area?*
- *What does partnership with parents/carers mean in practice? How can responsibilities and power be shared with parents/carers in a culture of high accountability?*
- *How can we make sure that teachers are supported in this aspect of their professional work?*

On the other hand, we do need a more diverse teacher workforce, one that better represents the diversity of the general population. New ideas are needed for bringing in more black, Asian and minority ethnic (BAME) teachers, for example. Identifying potential teachers early on in local communities - by offering internships as Teaching Assistants, for example - and supporting them during their professional preparation is a good way of ensuring schools have a teaching staff that is more reflective of their local community.

And in terms of teachers' own communities, teacher unions and professional associations should be seen as partners and collaborators rather than a threat to positive change and system-level improvement. Unions and associations are crucial in supporting the growth of the teaching profession and its relationship to society beyond the individual school and across diverse contexts. Whether we agree with everything a union says or not, they strengthen the democratic debate about teacher development.

Universities with their feet on the ground

These days, universities are encouraged to compete globally, most often on the basis of research-based metrics such as the amount of grant income generated, the prizes and fellowships awarded to its professors, and the number of citations each of their journal articles collects. In these circumstances, involvement in pre-service and continuing teacher development can seem like a low priority and some of our most prestigious, research-intensive universities can seem set apart from their geographic locations and the communities that surround them. It is almost as though jostling for recognition among a global elite is incompatible with being part of the communities in which these universities are situated. This situation has been exacerbated in recent years by the closure of the Continuing Education or Extra-Mural departments in some of these universities, departments that

- *How can initial or pre-service programmes be more innovative in their recruitment strategies so that they contribute to a more diverse and representative teaching work force?*
- *Relatedly, how can programmes address issues of unacknowledged privilege and resist providing answers derived from dominant communities that further marginalise the cultures of the non-dominant?*

attempted to bring local people through the door in order to study and take advantage of these universities' wealth of resources.

We believe that contributing to teacher development is a core responsibility of universities and also a way in which universities can both draw on and feed back into the communities in which they are located. While universities may need to keep their head in the skies as far as planning for cutting edge research is concerned, having their feet on the ground in their local area is essential and not incompatible with world-leading research aims. That is why we believe that universities and their staff, as well as schools and their teachers, should be at the heart of their communities.

iii. Education as cultural and societal development

Education looks very different depending on where we start. If our aim is economic, the curriculum will be focused on subjects believed useful in relation to the abstract idea of global economic competition, i.e. Science, Technology, Engineering and Mathematics (STEM), with a subject like English often coming to be defined as literacy. The mechanism of competition, between schools and ultimately between countries, is used regularly to provide the evidence required that the nation's education system is effective or not. This evidence is used to drive education policy. 'Effectiveness', as an abstract concept, becomes an aim of education, with 'evidence-based practice' as a way of determining curricular choices. Necessarily, assessment will be based on audit and metrics: league tables and performance management are brought into play to control the 'delivery' of results. Education professionals are tasked to rely on procedures to regulate practices, such as the use of performance management and prescriptive strategies for curriculum delivery. This can be seen in prescribing a specific kind of pedagogy, such as how to teach numeracy and literacy, and also in curriculum planning to accommodate demands, such as that of a specific 'tradition' to be transmitted; of key events or dates in history, or of canonical texts in English literature. If the aim of education is to enable competition in a global economic environment, and to give students 'transferable skills' related

to the job market, the model of education will be one where assessment drives the curriculum and teachers are managerial professionals.

We could start differently in deciding the aims of education and ask which human qualities and capabilities we wish to nurture and what kind of society we hope for.

If we start from this more flexible proposition, rather than the economic aim, schools, curriculum and the work of teachers will look very different. Education would still, of course, include practical capability and preparation for employment, but would take as a base the importance of human relationships, of developing together in a social environment, of inculcating habits of sympathy and imagination for others. Education from humanistic aims would go beyond the economic paradigm (sometimes represented by the phrase 'homo economicus') and encompass the understanding and knowledge children need to intelligently live their lives, and most importantly develop a sense of moral seriousness with which to engage in shaping their own futures.

This broader view of the aims of education would bring the child's experience of the world to the classroom, to engage with others in developing a sense of responsibility for the community, and to engage their critical faculties. Those subjects that enable deliberation and debate such as

the humanities and literature and those which enable the expression and development of imagination and sympathy, such as the creative arts, are crucial to these humanistic aims of education.

- *How can universities encourage beginning and experienced teachers – as part of the academic component of the programmes – to consider who and what they are teaching and to what ends?*
- *Why do we educate children and young people on a universal and compulsory basis? Why is education a public good?*
- *Subjects aside, after 14 years of schooling, what kinds of people should schools be developing? What dispositions, qualities, habits of mind, capabilities do people need? How do universities, through their work with student teachers and experienced teachers, address this question?*

These subjects offer possibilities for children to engage in ambiguous, complex, uncertain matters, for which there is no right answer. To learn to live with uncertainty is important to the development of imagination and sympathy. To learn to live with uncertainty also requires a different kind of focus on science and mathematics (as important aspects of our cultural entitlement in contemporary society); it also requires a serious engagement with poetry and the arts.

Teachers with humanistic aims of education need to develop the dispositions to be open and welcoming to the possibility of ambiguity and complexity, to develop their judgement so as to act as autonomous professionals, rather than as technicians of education who rely on the procedures and practices that have been transmitted to them. Teacher educators then have a responsibility to support their student teachers to develop and value such abilities and to acknowledge that life in the classroom will not be easy in a managerial climate of audit and targets. Teachers may well be put into a difficult and conflictual role – the teacher who has a vocation, who believes in an open classroom culture, but who is driven on to perform and feels she has no time to pay enough attention to the relationships she wants to maintain.

It seems that thinking about these matters together, allowing the issues to emerge, giving a space for student teachers to voice their ethical doubts, in and of itself helps to strengthen student teachers' courage to teach and, importantly, expresses solidarity both with those teachers and the wider society.

If we decide it is important, we believe it is possible to plan programmes that ask questions of an ethical nature and to foster some ethical deliberation. Guidance is already available on managing longer discussions of this nature and teachers in subjects such as Religious Education and History usually develop these skills as part of their subject teaching. Enabling student teachers to voice difficult questions, in a trusting and sympathetic environment, and to openly

- *How can universities help schools and school leaders, in particular, to consider issues such as 'moral purpose' and 'ethical judgement' in expansive, non-instrumental ways?*
- *Do we name this field of inquiry and deliberation and return the philosophy of education to the core of the university contribution to teacher development?*

discuss them with one another, helps to produce a critically reflective community of teachers, which in turn helps them to develop judgement in dealing with the ethical matters that are part and parcel of life in the classroom.

iv. A continuum of professional learning

The way we prepare most new teachers for the profession hasn't changed for a very long time. Prospective teachers usually sign up to a teacher education programme which combines academic study and professional (or 'field') experience. Internationally, the length of the programme and the balance between academic study and teaching experience can vary but essentially the integration of both elements has been the foundation stone of the dominant design for teacher education programmes for more than a century. In England, the government has specified the balance between the two for nearly 25 years.

And in England, at least, this design has been demonstrably successful year-after-year in producing new teachers who meet ever higher standards of professional competence. It is one of the zombie facts²² of teacher education that existing programmes aren't effective – no matter how many times it is laid to rest with yet more evidence from the government's own extensive databases from lengthy (now two-stage) inspection processes and questionnaire surveys of newly-qualified teachers. Much initial teacher education in England, at least, is 'outstanding' - highly effective according to government measures.

As we have said, we're not satisfied with this apparently successful position.

We think teacher education has done what it has been asked to do and done it well. But we don't think it has shown enough imagination in designing new programmes that can meet the challenges of Teacher Development 3.0. We don't think it has responded to the changing environment and the accumulated knowledge-base to come up with the new learning designs that are needed if we are to transform teachers' professional education.

Time for architectural change in teacher education

It's time to rethink the professional education of teachers at a fundamental level. We're not talking about small tweaks to the existing design – an extra week in school here, a new action research assignment there, some extra visiting speakers. We think that the term **architectural change** captures the scale and scope of what we are proposing.

We take it as foundational to any new design that all teachers are graduates. We believe that there are certain graduate attributes, regardless of the degree, that prepare people well for their professional education as teachers. Whilst recognising that there are many different ways to study for a bachelor's degree, we believe that academic preparation in a subject or subjects at undergraduate level is an essential precondition for preparation for what is, essentially, a professional job with an academic dimension. The most significant, recent, independent review of primary education in England called for more subject specialists in primary schools so this is not an issue specific to secondary education²³. And, for these reasons, we also don't support entirely classroom-based, 'apprenticeship' routes to qualification for non-graduates.

- *If you work in a university, when was the last time your institution made a significant change to the design of its teacher education programme and why was the change made?*
- *If you think the existing design for postgraduate initial teacher education, in particular, is a good one and worth retaining, why do you think that? Why wouldn't you change?*

However, we don't think that a one-year, one-off formal programme is sufficient preparation for the kinds of teachers we need today and in the future. We want to propose and endorse what some have called 'long, thin' professional education, a continuum of formal learning opportunities that begin with an initial preparation that should last two to three years. Only at the end of this longer, initial programme would teachers be deemed to have qualified and during these years the students would have to show not only a level of professional competence appropriate to a new entrant to the profession but also the habits of mind and capacity for analysis and informed, scholarly judgement that would suggest they have the

ability to continue to develop as professionals over their career. We believe this initial preparation should culminate in a Master's level qualification and a license to practice in a particular jurisdiction. Both would be pre-requisite to commencing a first post. In making these suggestions, we are drawing on recent experiences internationally as well as current changes to teacher education in Wales²⁴.

Despite the academic component being essential to the process, though, we don't think universities should be in the lead position. But unlike the 'school-led' rhetoric in England, we suggest instead genuinely **profession-led** professional education²⁵. One possibility would be the establishment of new bodies on a geographic basis to plan, organise and offer the professional accreditation for teachers and that these bodies might

include representatives of all the stakeholders in the education system – schools and universities but also parent/ carer representatives, local authorities/ academy trusts, teacher unions and relevant professional associations and interest groups. The geographic, regional nature of these new bodies would be key: in addition to having better joined-up workforce planning capable of addressing any shortages locally, the specific needs of

schools and communities in particular areas might be addressed much more directly and the continuum of professional preparation and continuing development for teachers could be tailored more responsively. Such bodies would also need to ensure that a geographical focus is allied to an outward-looking, inclusive perspective that works against any insular tendencies and explicitly addresses any local tensions. Although there is sometimes now greater anxiety around public consultation and broader democratic representation in the UK after the June 2016 vote to leave the EU, we believe that a genuinely inclusive and deliberative organisation is the best way to plan the preparation of workers for one of society's most important public service professions.

- *What is the difference between 'school-led' and 'profession-led' when it comes to teacher development? What is it about putting the emphasis on the profession as a whole that distinguishes this approach from a 'school-led' position?*
- *If we accept a profession-led rather than (collection of individual) school-led position, what are the implications, if any, for how universities can contribute?*

Joining in with a new profession-led teacher education body like this may present challenges for all stakeholders, including schools and universities who are currently the main partners in the process. Universities might have to take innovation in their teacher education programmes much more seriously than they have and they would have to listen harder to the profession and the different communities served by schools when planning their contributions. Schools might need to raise their game in terms of supporting and coaching beginning teachers who may not be immediately competent (rather than relying on university personnel, as can often happen currently) as well as being open to changing their practices at the school-level. Additionally, school leaders may need to recognise (in some cases more strongly than presently) that there is a diverse profession beyond the school door. No one stakeholder has all the 'right' answers. The point is that with wider representation at the table and a new profession-led body overseeing and taking responsibility for the design and content of programmes, it is more likely that sustainable change of the kind we need for Teacher Development 3.0 can be achieved.

Building capacity within a connected profession

It is within communities of professional practice that the individual teacher's teaching is made public and is open to scrutiny. But the public spaces the profession inhabits have grown, are connected and converge. And, we suggest, the quality of scrutiny is more crucial than ever.

The thirst for research-informed professional learning by teachers themselves is evident in the growing number of Teachmeets, professional blogs, school-based conferences and Twitter debates. But it is a platitude to say new technologies offer opportunities for creativity, collaboration and learning outside of the classroom, because we have heard this so often. Yet this potential is far from being realised. Technology is only one factor in building the capacity of a connected profession. The promise has yet to be realised because the profession does not yet have the capability or resource to exploit this opportunity fully. It will take a profession with both access to research and research literacy²⁶ to exploit the opportunities new technology brings. Without informed scrutiny, new technologies can merely provide an echo chamber for the loudest voices offering over-simplified solutions, often driven by ideological

commitments, commercial opportunism or personal ambition.

In this context, we need better designs for professional learning with and through new technologies in initial teacher education and continuing professional learning. Rather than using technology as a dump site for yet more 'evidence' of compliance with government bureaucracy it should instead be used as a site for informed scrutiny and dialogue. For example, video enables new teachers to analyse their own teaching and that of others. New teachers could be given a better introduction to the role of assistive technologies in inclusive classrooms and to the possibilities for responsive teaching with technology designed for formative assessment. Instead of spending time building e-portfolios of 'evidence' against a prescribed model of 'standard' practice, new teachers could be using collaborative blogs to share and analyse their school-based experiences as sites for ongoing professional learning and dialogue.

To underpin this kind of informal but rich professional development, the long-life teaching profession needs access to research in peer-reviewed journals. All teachers could benefit from curated collections of research articles and books designed to bridge undergraduate and postgraduate study, connecting research literature with their early experiences in the classroom. Teachers begin their careers with questions. With access to research they can continue their enquiries as they gain experience, asking not only how teaching strategies work, but why they might, or might not, enable learning.

- *How can we devise more effective designs for professional learning that genuinely exploit the connectivity of new technologies?*
- *What capabilities are essential for teachers to critically exploit the potential of digital technologies for sustained professional development?*
- *How can all stakeholders - but particularly universities - exploit digital media to increase the access to, and usability of research, without dumbing it down?*

Connected professionals are in a position to collaborate, to question and to adapt, in the interests of the children they teach and the communities they serve. Initial teacher education as well as continuing professional development, has to be about more than short-term survival, sometimes in very challenging circumstances. Online environments can provide a 'third space'²⁷ for learning

and development beyond school and postgraduate study, in which new teachers can thrive. We believe that current forms of teacher education do not take full advantage of the potential of new technologies both to create new spaces for professional learning but also to provide useful tools in those spaces that promote sustainable teacher development.

We believe the discourse on new technologies within initial teacher education, particularly, is underdeveloped and believe there are new opportunities for developing useful tools in those spaces that can promote sustainable teacher development.

Recap: Four design principles for Teacher Development 3.0

You may think it strange that we have left the principle most obviously related to programme design and formal structures to last and that we began with the idea of a long-life teaching profession. That wasn't an accident.

We don't think we can achieve any meaningful change – and certainly no sustainable change – if we *don't* rethink what it means for teaching to be a profession nor can we achieve change without a better understanding of the relationship between schools, the communities they serve and the wider society. And a fundamental part of that process is thinking about what education itself (for the whole of society as well as for individual learners) is for – as well as what the education of *teachers* is for. Focusing on structures alone, as history shows, won't get us where we need to be. **A long-life teaching profession; Schools, universities and teachers at the heart of their communities; and Education as cultural and societal development** are all conditions for and outcomes of **A continuum of professional learning**.



4. FOUR DESIGN QUESTIONS: WORKING TOWARDS TEACHER DEVELOPMENT 3.0

In this section, we pose some questions to provoke discussion about how we can realise the possibilities of Teacher Development 3.0. So they are specific but, hopefully, open questions that will encourage us to work within our own settings to understand the challenges more critically; to generate data in collaboration with our colleagues as well as other stakeholders; and to envisage and plan for new ways of making a contribution to profession-led teacher development. To this extent, they are design questions in the spirit of design thinking, an approach to innovation that encourages us to work with others on shaping new futures for our leading activities²⁸.

i. Curriculum: what (and whose) powerful knowledge for changing times?

If we want young people to leave school ready to create a better world, it could be useful to look at the world as it is now and how it will develop. It has been claimed that we are living in a new epoch, the Anthropocene²⁹, in which human activities appear to be having a profound impact on global processes. If this is the case, there are implications for our education system. Michael Young has argued that schools need to focus on the acquisition of specialist, non-context dependent knowledge; in particular, knowledge that is not available to young people outside school. For him, the issue is how to enable all pupils to access this kind of 'powerful knowledge'³⁰. If we have entered the Anthropocene, the knowledge needed by young people to become educated citizens is arguably becoming more uncertain, complex and contingent³¹ than his view implies.

An alternative to current subject-based schooling would be to organise the curriculum differently according to specific aims³² rather than in individual subject areas, that can seem disconnected from one another. This kind of root and branch approach to change in the school curriculum is unlikely to be considered by politicians in England anytime soon, yet it is not too soon to build into teacher education opportunities for new teachers to consider critically the aims of the curriculum they are training to teach. Initial teacher

education needs to be conceived as just the beginning of a much longer (and perhaps 'thinner') process, in which new teachers explore ways in which they can make their knowledge useful in the learning of others, taking an increasing interest in the ways their students see the world.

New teachers need the opportunity to explore an approach to education that is neither focused on instrumental vocationalism nor an obsession with test scores. If professional education is to be profession-led, perhaps the most important question is how we create a profession in which teachers see themselves as champions of education itself, as a fundamental part of everyone's lifelong development as human beings.

ii. 21st century assessment: how do we reconnect to our expertise and go beyond levels and grades?

Current policy prioritises high stakes summative assessment and this neatly feeds the global standards-based reform agenda with its associated accountability frameworks and school league tables. In England, currently, there are significant changes to national assessment at both primary and secondary levels, and measures like Progress 8³³ that have the potential to significantly impact on new schools' priorities and practices. Clearly initial teacher education should ensure new entrants to the profession are fully aware of the current context and knowledgeable about its potential implications, but we know that policies will change and what new teachers need is a much more developed sense of the role of assessment in learning and teaching.

Assessment is about helping teachers to help children learn and helping children to help themselves, independently. It isn't just about tests, levels, grades, marks or accountability. We have a rich history of expertise in educational assessment in England and we need to reconnect with it. The effects of the current prioritising of high stakes assessment have been as marked as they have been predictable: the narrowing of curriculum; teaching to tests; increased stress for both teachers and taught; children who know what 'level' they are but not how to make progress. We do not need to rehearse the evidence; it is strong, and it is not only university researchers that have detailed the damaging effects of the current context³⁴.

Equally strong is the research about the kind of assessment that enhances and develops learning. We do know what can work. Evidence from assessment for learning research points to the kinds of skills needed – high quality questioning, meaningful feedback, dialogic teaching; these are fundamental to effective teaching and learning, and in rearticulating our approach to assessment we need to see it in those terms.

Although assessment for learning has been embraced, it has suffered that most terrible of fates. It has often been appropriated superficially and has been reduced to a set of quick-fix teaching strategies – ‘no hands up’, ‘traffic lights’, ‘lollypop sticks’ – thanks to its adoption by national policymakers and many educational consultants. Sometimes even well-intentioned but limited appropriations of assessment for learning have detrimental effects.

New teachers need to engage with the thinking at the heart of assessment for learning. They need to come to understand that this is not another technique for them to master or tip to acquire; it is part of their daily, and constantly evolving, practice of teaching and learning. Further, they need to know that much of the work is in the planning, and in those crucial interventions during lessons at the point of learning; it is not about additional workload, more marking, lengthy written feedback, greater stress. Critically, they need to know that in developing inclusive practice that is responsive to the changing needs of learners in increasingly diverse contexts, assessment is key. Effective assessment should narrow attainment gaps and contribute to the opportunities and life chances of all.

iii. What do we mean by ‘subject knowledge’ and what is its relative importance in learning to teach?

Everyone wants teachers to be knowledgeable and to have confidence in their own learning, even to inspire their students with their love of a particular subject. But some talk of the importance of ‘subject knowledge’ in the education of teachers is just plain wrong when it asserts that this aspect of a teacher’s academic knowledge is the single most important factor in good outcomes for students³⁵. For one thing, what people mean by ‘subject knowledge’ varies a lot and sometimes it just means the teacher’s prior academic qualifications (so a proxy and not any kind of direct measure).

Claiming the over-riding significance of 'good subject knowledge' above everything else perpetuates yet another of those zombie facts of teacher education.

Some of the best (i.e. most effective and successful) teachers do not necessarily have advanced prior qualifications at a high level in a 'subject'; there is a complex relationship between prior qualifications and the 'effective teacher'. Some research suggests that length of teaching experience is a more significant factor than prior qualifications and other research suggests that primary school children taught by teachers with PhDs in Mathematics do less well in Maths than their peers taught by teachers with lower level qualifications³⁶. Some government research in England showed how a group of the most effective teachers of literacy (identified by multiple measures, including pupil progress) were not able to make their 'subject knowledge' explicit enough for them (the teachers) to do well on a test of it even though the children they were teaching did well in tests of the subject, enjoyed studying it and the teachers were regarded by their peers as experts in it³⁷. Meta-analyses of the research that meets the standard of randomised experiments also does not find that teachers' prior qualifications (the usual proxy for 'subject knowledge') is the significant variable when it comes to identifying effective teaching. So we need a more nuanced understanding of the relative importance of this kind of knowledge in developing effective teaching³⁸.

It is critical, however, that teachers do have deep, *professionally useful knowledge* of the subjects to be taught so that they can teach in intellectually engaging ways that challenge their students. This is the kind of knowledge that won't just come from advanced qualifications in those subjects. If teachers teach interactively so that they can assess their students' learning as they teach – or, put more traditionally, teachers engage their students in big questions and debate, 'rousing their minds to life'³⁹ – deep and flexible knowledge of school subjects is crucial so that teachers can ask and answer provocative questions and improvise great teaching in the course of interaction. So we are absolutely not arguing for superficial knowledge of English literature or biology or any other subject; nor are we arguing for non-specialist teachers keeping one step ahead of students in the textbook. We

are arguing instead that teachers need high-level disciplinary knowledge in practice – a concept that some experts have referred to as *pedagogical content knowing*⁴⁰ or, from the European traditions, teachers capable of *didactical transposition*⁴¹. How can you make a relatively advanced concept from a discipline like Physics, for example, come alive for teenagers on a Friday afternoon in such a way that it engages them intellectually, prepares them for the next phase in their learning of that subject, and (in an ideal world) ignites a passion for it in them?

Much of the traditional work of teacher education programmes in universities has been curriculum-based, especially in secondary, post-baccalaureate programmes. Indeed, there is a strong history of joint work between school teachers and university-based teacher educators in this area that led to ground-breaking professional and curriculum development projects in the past⁴². Over the last twenty years, there have undoubtedly been reduced opportunities to engage in these sorts of activities for a whole range of reasons, not only to do with policy-makers specifying what should be taught, how and when (as happened in England for much of the early 2000s). Finding ways to develop high-level disciplinary or curriculum knowledge in practice among teachers is a key aspect of the profession-led professional education we are envisaging. It's not about universities being the fount or source of this knowledge; it's about collaboration between experienced and less experienced teachers, teacher educators and researchers across the university as a whole.

Regarding prior qualifications as a valid proxy for teachers' subject knowledge can also be a dangerous thing to do. No degree in English Literature will prepare its graduates to teach reading to adolescents who struggle with or dislike reading. But these adolescents exist in our schools. Taking a more nuanced approach to 'subject knowledge' means learning something new in order to be effective in a school classroom, something your Shakespeare tutor didn't teach you! Teacher development programmes (initial *and* continuing) have a critically important role in this respect.

iv. Beyond 'behaviour management': why do school ethos and climate really matter?

Everyone wants schools to be safe and orderly places where children and young people *as well as teachers* can flourish. But 'no excuses' and authoritarian approaches are often disproportionately adopted with children who come from economically poorer, minority and socially disadvantaged backgrounds.

In some cases, 'zero tolerance' policies are introduced, with strict behaviour codes that are enforced not just by teachers but by monitors who patrol the school throughout the day to ensure control and compliance. While this can seem to be effective to an extent, we know that oppressive regimes can produce superficial compliance but also breed resentment, and push undesirable behaviours to the margins or the shadows. That schools who choose to function in this way tend to be serving children from less affluent areas is a real problem; it is precisely these sorts of children who need to feel that the system embraces them, their backgrounds and their culture if we are to build a cohesive society⁴³. To return to our second design principle, schools and teachers are at the heart of their communities; they are not part of the penal system, punishing the community into compliance. Instead, they need to model appropriate behaviours for their students and promote the notion of self control and independence.

At the heart of creating a school ethos and climate that are inclusive and conducive to learning is knowledge of children, their parents/carers and their communities so that strong relationships can be fostered. When young people feel that the school and its teachers care about them, their backgrounds and their futures, they feel valued. The investment in schools that took place as part of the London Challenge demonstrates this⁴⁴. A school's leadership valuing its teachers and their backgrounds, experiences and ambitions – rather than seeing them as recipients of policy – further enhances a positive ethos.

At the level of the classroom, it is the relationship between the teacher and the young person that ensures positive behaviour. The relationship is based on knowledge and respect, but also, critically, an understanding of learning. The

argument that well planned, engaging lessons mitigate all behavioural issues has rightly been challenged. Of course it is not that simple. However, it is undoubtedly the case that teachers who have developed a sophisticated knowledge of how children learn can more effectively select, plan, adapt and differentiate lesson content to ensure that – most of the time – young people are engaged. Ultimately, these young people recognise the passion their teachers have for their learning and their futures and they respond accordingly.

Building relationships and the skills needed to teach for helpful, learning behaviours takes time. The suggestion that behaviour management can be achieved once-and-for-all by learning a set of top tips or strategies, or simply by watching another effective teacher in action are facile. Consistent classroom and school systems and procedures will help, as will observing and talking to experienced colleagues and accessing specific support.

Reducing behaviour management to a set of techniques, however, can be counterproductive; a new teacher who employs the recommended system and strategies but still faces challenging behaviour may inevitably think the failing is hers, not the system's. The ability to build the ideal classroom ethos, founded on knowledge, relationships and respect, takes time and should not be seen by anyone as something that can be ticked off at the end of a school placement.



5. RE-CONFIGURING THE ACADEMIC CONTRIBUTION TO PROFESSIONAL LEARNING

If we wish to work towards realising Teacher Development 3.0, how can we, in universities, re-configure the relationships between the profession and higher education? As we have argued throughout, universities do have a contribution to make to this relationship - and a strong one - as evidence from highly successful school systems worldwide continues to show. But, as we have also said, we don't believe universities should be in charge of the whole enterprise just as an individual school or headteacher shouldn't have the final say on programmes of initial teacher education and continuing professional development. To return to our third design principle, we are seeking a *profession-led* professional education – but this description incorporates a broader and more inclusive interpretation of profession in terms of the multiple stakeholders who have a part to play in realising Teacher Development 3.0.

Higher education has a responsibility to curate and to generate certain forms of new knowledge. Research and knowledge generation - and transformation - is therefore a key responsibility of universities. But the relationship we are imagining isn't one of delivering findings to end-user teachers; many of the best examples, where teachers transform their practice, are those that begin with teachers identifying their own questions and problems and then working closely with university colleagues, and others, to research and develop practice. Such locally-focussed small scale, yet complex studies, can contribute important insights to the broader field of teacher development whilst having impact within the local context.

But while these local collaborations go some way towards transforming the professional development of teachers (and teacher educators) we argue for a radical re-think of the role of the university in responding to the questions that we have identified in our design principles and in our societal challenges. University departments and schools of education can be critical hubs where a wide range of stakeholders in education can come together and draw on their different expertise and experiences to start to transform teacher development. Universities have a distinctive part to play and have academic

expertise to bring to the dialogue – but they are only one voice in what needs to be a professionally reflexive assemblage.

We believe, as do other colleagues around the world, that we should move away from seeing knowledge derived from academic research as the main authority on which the professional claims for teaching are based. Universities are well placed to contribute to and bring together the sorts of knowledges, experiences and innovative approaches to problem-solving that are going to need to become the trade-mark of the student of the twenty-first century. Universities are well placed to participate in the co-configuration of an intellectually, socially and critically reflexive, and transformative process of professional learning⁴⁵. The approach is one of collaboration and transformation. The kind of innovation we are seeking to stimulate would lead to the creation of new ideas that will have wider public value, affecting the relationships between schools and communities as well as universities and the profession. We are seeking to transform the professional education of teachers and Teacher Development 3.0 represents the significant shift we believe is necessary.



6. SUMMARY

In this pamphlet, we have argued from a transformative position that the ways in which we prepare, support and develop the teaching profession need to change. We have not sought, uncritically, to defend universities but neither have we joined in with the attacks of zombie facts from those in the self-styled 'reform' camp who want to see universities 'exit the market' for initial teacher education, in particular. Our purpose in writing this pamphlet has been to stimulate debate about innovation in the university contribution to what we believe should be a profession-led agenda for teacher development. To distinguish our position from reformers who propose a narrowly instrumental 'Teacher Quality 2.0', we propose instead Teacher Development 3.0 around a set of 4 design principles.

The 4 design principles for Teacher Development 3.0

1. **Plan for a long-life teaching profession** – understand the limits in planning for 'teach-for-a-while teachers'; build retention within the profession; provide new opportunities for support; create new pathways for personal and career development; encourage humane leadership with longer-term vision and courage.
2. **Put schools, universities and teachers at the heart of their communities** – grow close links between parents/carers, communities, universities and schools on the basis of mutual respect and equality with opportunities for all to learn; recognise expertise and local knowledge within communities that can be built on in schools for the benefit of those communities; work hard to recruit a more diverse workforce into teaching – crucially, more people of colour and more from working class backgrounds.
3. **See education as cultural and societal development** – take a non-instrumental, longer term view about what we mean by a good education; develop teachers to help to prepare the kinds of people we will need in the twenty-first century; regard education as a public good rather than only as private gain and regard teachers as significant figures in the development of our culture and society, not only as deliverers of improved test scores.

4. **Provide a continuum of professional learning** – reject one-shot, fast-track, 'high-performance', unsustainable approaches to teacher development; extend the initial preparation into the early career and ensure that this is profession-led but also more democratically deliberated and accountable in terms of young peoples', their families' and communities' interests; be more imaginative about how universities contribute to 'long, thin' teacher development; challenge universities to be more innovative; help to build capacity within a more connected profession – not just in terms of the use of social media but the mobilisation of knowledge across institutional boundaries.

We also believe that the current ways in which we prepare, support and develop the teaching profession do not always take full account of the societal and environmental challenges we now face and will face with even greater intensity in the near future. Hyperdiversity and mobility; environmental degradation and sustainability; poverty and social inequality; coping with rapid technological and medical advances – these global challenges all change the way we think about education, schools, curriculum, assessment, who the students are as well as how we recruit and develop teachers. Whilst we don't want to descend either into futurism or scare tactics, we do believe that, in recent times, in universities and schools and across the profession, we haven't been good at confronting these future challenges.

Our discussion of these challenges and then the *4 design principles* precedes our posing of *4 design questions* intended to stimulate future investigation into our own institutional contexts and transformative innovation by universities in collaboration with the wider profession.

The 4 design questions

1. *Curriculum: what (and whose) powerful knowledge for changing times?*

One view of school knowledge is that it is fixed (usually elsewhere, by university disciplines, for example) and that what is therefore needed is to ensure that it is as widely available to the population as possible. The risk with this approach is that we risk regarding knowledge as inevitably fixed

and therefore teach to an imagined past without looking around us to see how the world and its knowledge have changed and the significant global challenges we face. This isn't an argument for 'anything goes'. It's an argument for taking what we teach in schools really seriously and helping to develop people's capacities to evaluate what we know critically and to develop new knowledge.

2. 21st century assessment: how do we reconnect to our expertise and go beyond levels and grades?

The kinds of knowledge about assessment and the skills of assessing learning that teachers need in order to teach really well go way beyond the technical details of awarding levels or grades or making summative judgements of any kind. Extending and challenging young people's learning before, during and after the moment of classroom interaction requires greater expertise than this model suggests and is critical to developing excellent teaching. We have a proud tradition of work on assessment of this kind in England and we need to re-connect with it.

3. What do we mean by 'subject knowledge' and what is its relative importance in learning to teach?

Although we tend to talk a lot about 'subject knowledge' and its importance in learning to teach, we usually refer to proxies such as prior qualifications or 'audit' tick lists. Additionally, research tends not to support simple associations between academic qualifications and teaching excellence across all subjects and phases despite this association being continually asserted as a zombie fact of teacher education. Instead, we need to work out what we mean by *professionally useful knowledge* and how this can be developed in practice. The good news (borne out by the research and evidence) is that people without first class degrees and PhDs can become excellent teachers. The danger lies in regarding high-level academic qualifications as proxies for – or predictors of - teaching excellence.

4. Beyond 'behaviour management': how to prepare teachers who understand that school ethos and climate really matter?

A positive ethos is vital to the success of a school and is recognised as such by students, parents and teachers. It includes creating safe, orderly, respectful workplaces but goes way beyond the application of a few 'behaviour management' tips and techniques. Building relationships within an organisation of any kind is critical to that organisation's success but even more so with schools as institutions that compel young people's attendance and participation. Preparing teachers and school leaders to build outward-looking, respectful and humble organisations that become excellent through dialogue with students, parents/carers and the community is a core task for any organisation aspiring to Teacher Development 3.0.

We conclude by pointing out something we believe to be obvious: it is time for universities to be genuinely innovative and in genuinely transformative ways. It's time for universities to work with the profession *as universities* and for university-based teacher educators to play to their distinctive academic expertise, based on the underlying principles we have outlined in this pamphlet. Universities have already shown themselves to be particularly adaptable and 'nimble' in responding to wave after wave of sometimes chaotic and, at times, intentionally destructive reforms. Indeed, sometimes universities have shown themselves to be nimbly opportunistic in grasping at any new opportunities created by the encroachment of marketisation and privatisation of the public sector.

Imagine what universities could do if they devoted all this energy to real innovation.

Imagine what impact universities could have if they contributed their distinctive expertise and resources to a profession-led agenda for Teacher Development 3.0.

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The views expressed remain those of the author group.

NOTES

¹ For example: Berliner, D. (2013) Effects of inequality and poverty vs. teachers and schooling on America's youth, *Teachers College Record* 115, 120308, December 2013, 26 pages; Slater, H., Davies, N. M. and Burgess, S. (2012) Do Teachers Matter? Measuring the Variation in Teacher Effectiveness in England. *Oxford Bulletin of Economics and Statistics* 74: 629–645.

² Hess, F.M. & McShane, M.Q. (Eds.) (2014) *Teacher Quality 2.0: Toward a New Era in Education Reform*. Cambridge, MA: Harvard Education Publishing Group.

³ Department for Business, Innovation and Skills (DBIS) (2016) Higher Education and Research Bill; available at <http://services.parliament.uk/bills/2016-17/highereducationandresearch.html>; accessed 7/11/16; see also Holmwood, J., Hickey, T., Cohen, R. & Wallis, R. (Eds.) (2016) *In Defence of Public Higher Education: Knowledge for a Successful Society* (The Alternative White Paper). London: Conventiiion for Higher Education; available at <https://heconvention2.files.wordpress.com/2016/06/awp1.pdf>; accessed 7/11/16.

⁴ The Office for Standards in Education (Ofsted) inspection database reveals variation in quality between the various regional Teach First franchises (<https://reports.ofsted.gov.uk/inspection-reports/find-inspection-report/results/any/any/any/any/any/Teach%20First/any/any/any/any/0/0>) with some graded as 'Good' (for example, Yorkshire and Humberside) in their most recent inspections (2015) as well as some as 'Outstanding'. Many well-established university-school partnerships have evidence of 'Outstanding' inspection grades since inspections began. See also Labaree, D .F. (2010) Teach for America and Teacher Ed: Heads they Win, Tails We Lose, *Journal of Teacher Education* 61, 1-2: 48 – 55.

⁵ Zeichner, K. (2016) *Independent Teacher Education Programs: Apocryphal Claims, Illusory Evidence* (NEPC Policy Brief). Boulder, Co: National Education Policy Center; available at <http://nepc.colorado.edu/publication/teacher-education>; accessed 7/11/16; see also Ellis, V. (2016) 'Beyond the Plateau': Right Problem, Odd Solution' [The BERA Blog: Research Matters] available at <https://www.bera.ac.uk/blog/beyond-the-plateau-right-problem-odd-solution>; accessed 7/11/16.

⁶ The Pennsylvania Department of Education determined that Relay's planned attention to educational research was inadequate for a graduate-level programme and denied them permission to start up. See https://drive.google.com/file/d/0B1OOfmB_q_nnLWJuU2tZVi1ITU9xd1VKaWp4YTFHqnlBejFn/view

⁷ Economically developed countries which have the smallest difference in income represented by the [Gini Index](#) (in %) of income worldwide, according to latest published data by World Bank in July 2014 (<http://wdi.worldbank.org/table/2.9>), also tend to do well in the PISA assessments of 15 year olds (<http://wdi.worldbank.org/table/2.9>), measurements that are often taken for the effectiveness of education systems. Analysis of the most recent PISA results (for 2015) also confirms this association (http://oecd-library.org/education/pisa-2015-results-volume-i_9789264266490-en); accessed 12/12/16). The association between low levels of social inequality and higher performance is discussed in Wilkinson, R.G. & Pickett, K. (2009) *The Spirit Level: Why More Equal Societies Almost Always Do Better*. London, Allen Lane. Additionally, Riddle & Lingard (2016) discuss the relative decline in Australia's performance in PISA over the last 15 years with reference to recent policy trends there such as the failure to implement fair funding measures for schools; increased federal funding to private, fee-paying schools; a raft of national curriculum and standards authorities; and increased emphasis on seeing education as a market (Riddle, S. & Lingard, B. [2016] Pisa results don't look good, but let's look at what we can learn before we panic, *The Guardian*

6/12/16; available at <https://www.theguardian.com/australia-news/2016/dec/07/pisa-results-dont-look-good-but-lets-look-at-what-we-can-learn-before-we-panic>; accessed 12/12/16.

⁸ Kretchmar, K. & Zeichner, K. (2016) Teacher prep 3.0: a vision for teacher education to impact social transformation. *Journal of Education for Teaching* 42,4: 417 – 433.

⁹ Gove, M. (2013) I refuse to surrender to the Marxist teachers hell-bent on destroying our schools. *Daily Mail*. 22nd February. (available at <http://www.dailymail.co.uk/debate/article-2298146/I-refuse-surrender-Marxist-teachers-hell-bent-destroying-schools-Education-Secretary-berates-new-enemies-promise-opposing-plans.html>; accessed 7/11/16); Montague, W. (1987) Administrators Rebut Bennett's Critique of Burgeoning Bureaucratic 'Blob'. *Education Week*. September 9th (available at <http://www.edweek.org/ew/articles/1987/09/09/07200023.h07.html>; accessed 7/11/16).

¹⁰ Elbaek, U. (2016) A Friendly Revolution. *RSA Journal* 3: 20 – 23.

¹¹ The film *Most Likely to Succeed* (<http://www.mltsfilm.org>) is based on the 2015 book of the same name by Tony Wagner and Ted Dintersmith (*Most Likely to Succeed: Preparing Our Kids for the Innovation Era*, New York: Scribner). In the UK, screenings of the *Most Likely to Succeed* film can be arranged through the Innovation Unit (<http://www.innovationunit.org>).

¹² School 21 is an innovative free school in East London which prides itself on its 'unique speaking curriculum' and which has a focus on 'well-being, grit and emotional resilience so that children can cope with whatever is thrown at them'. It aims to employ 'extraordinary teachers who are skilled at their job, collaborate in new ways and go the extra mile for each child' (<https://school21.org.uk/about-us/why-choose-school-21-0>; accessed on 12/12/16).

¹³ School 21 website: <https://school21.org.uk/>

¹⁴ Richard Rothstein, Bank Street Graduate College of Education Commencement Address, May 14th 2015; available at https://www.washingtonpost.com/news/answer-sheet/wp/2015/06/04/the-hard-ethical-challenges-that-confront-teachers-today/?utm_term=.8a9edcc9c1c6; accessed 12/12/16.

¹⁵ See Hargreaves, A. & Fullan, M. 2012. *Professional Capital: Transforming Teaching in Every School*. London: Routledge; Day, C., Stobart, G., Sammons, P., Kington, A. & Gu, Q. 2007. *Teachers matter: Connecting lives, work and effectiveness*. Maidenhead: Open University Press.

¹⁶ For example: <http://www.bbc.co.uk/news/education-31921457>; <https://www.tes.com/news/school-news/breaking-news/teaching-among-top-three-most-stressed-occupations>; <https://www.nasuwt.org.uk/article-listing/nasuwt-comments-on-teacher-workload.html>

¹⁷ For an interesting analysis of the evidence for the 'leadership premium', see Croft, J. (2016) *Taking a lead: How to access the leadership premium*. Research report 9. London: Centre for the Study of Market Reform of Education; available at http://www.cmre.org.uk/sites/default/files/Taking%20a%20lead_web%20version_final.pdf; accessed 7/11/16.

Eisenstadt, N. (2011) *Providing a Sure Start: How Government Discovered Early Childhood*, Bristol: Policy Press; Lewis, J. (2011) From Sure Start to children's centres: an analysis of policy change in English early years programmes, *Journal of social policy* 40 (1), pp. 71 – 88; NESS (2010) *The impact of Sure Start Local Programmes on five year olds and their families: Research report DFE-RR067*. London: DfE. ISBN 978-1-84775-826-2. Available at: <http://publications.education.gov.uk/eOrderingDownload/DFE-RR067.pdf>; accessed 7/11/16.

¹⁸The Seattle Teacher Residency (<http://www.seattleteacherresidency.org/about/partners/>) brings together community leadership, professional and academic contributions and teacher union input in a model designed to address inequality from a perspective that doesn't make those who are disadvantaged 'done to' or voiceless. The Newark-Montclair Urban Teacher Residency (<http://www.montclair.edu/cehs/academics/cop/nmutr/>) includes an academic assignment that asks student teachers to work in groups to conduct an ethnographic study of a community served by the residents' schools.

¹⁹For example: Desforges, C. with Abouchaar, A. (2003) *The impact of parental involvement, parental support and family education on pupil achievement and adjustment : a review of literature*, Nottingham: DfES Publications; Melhuish, E. (2010). Why children, parents and home learning are important. In K. Sylva, E. Melhuish, P. Sammons, I. Siraj-Blatchford, B. Taggart (Eds.) (2010) *Early Childhood Matters: Evidence from the Effective Pre-school and Primary Education Project*. London: Routledge; Jeynes, W.H. (2011) *Parental involvement and academic success*, New York: Routledge.

²⁰For further discussion of this issue, see Emdin, C. (2016) *For White Folks Who Teach in the Hood... and the Rest of Y'all Too: Reality Pedagogy and Urban Education*. New York: Beacon Press.

²¹The phrase 'zombie facts' has come into usage to describe baseless claims that persist in popular discourses because they are rhetorically and politically useful. See also linguist Deborah Cameron: <https://debuk.wordpress.com/2016/04/26/voices-at-an-exhibition/> for example; accessed 12/12/16.

²²Alexander, R. (Ed.) (2010) *Children, their World, their Education. Final Report and Recommendations of the Cambridge Primary Review*. London: Routledge.

²³Wales, as a separate jurisdiction of the UK, is currently implementing significant changes to the structures and organisation of initial teacher education as a result of the Furlong Review - Furlong, J. (2015) *Teaching Tomorrow's Teachers: Options for the Future of Initial Teacher Education in Wales*. Oxford: Oxford University Department of Education.

²⁴An independent College of Teaching was established in England in 2016 and has since promoted the concept of a 'profession-led' school system. See www.collegeofteaching.org

²⁵Furlong, J. (2013) *Education – an anatomy of the discipline: Rescuing the university project?* London: Routledge.

²⁶'Third space' is a term used in a number of social sciences to indicate a relatively open, safe and temporary developmental environment where different kinds of knowledge and expertise can come together to examine the limitations of their current situations and envisage more generative new situations for the future. In educational research, one of the best-known uses of the term is in the work of US researcher, Kris Gutiérrez; for example: Gutiérrez, K., Rymes, B. & Larson, J. (1995) Script, counterscript, and underlife in the classroom: James Brown vs Brown vs Board of Education. *Harvard Educational Review* 65,3: 445 – 471.

²⁷Design thinking is an approach to innovation that draws on methods from engineering, art and design, and technology. It uses practical investigatory strategies to define problems and to collect data that can help to generate new ideas and new models and visions for practices. It is participatory and collaborative in its ways of working and has been applied in commercial and public sector bodies. See, for example: <http://dschool.stanford.edu/>

- ²⁸ Anthropocene is a word used to describe the historical epoch where human activities have a significant impact on the planet's environment and eco-systems. Some geologists use this word for the current epoch. See, for example: Moore, J. W. (Ed.) (2016). *Anthropocene or Capitalocene? Nature, History, and the Crisis of Capitalism*. Oakland, CA: PM Press.
- ²⁹ Young, M. (2013) Overcoming the crisis in curriculum theory: a knowledge-based approach, *Journal of Curriculum Studies* 45,2:101-118.
- ³⁰ Coles, A, Dillon, J, Gall, M, Hawkey, K, Orchard, J, Tidmarsh, C, Wishart, J, Kerr, D. (2016) Towards a Teacher Education for the Anthropocene. In Blaze Corcoran, P., Wals, A, Weakland, J. (Eds.) *Envisioning Futures for Environmental and Sustainability Education*. Wageningen: Academic Publishers.
- ³¹ Reiss, M.J. and White, J. (2013) *An aims-based curriculum: The significance of human flourishing for schools*. London: Institute of Education.
- ³² Progress 8 is a school accountability measure in England designed to promote progress in 8 subjects between the ages of 11 and 16.
- ³⁴ See, for example, the National Curriculum Expert Panel report: 'We are concerned by the ways in which England's current assessment system encourages a process of differentiating learners through the award of 'levels', to the extent that pupils come to label themselves in these terms. Although this system is predicated on a commitment to evaluating individual pupil performance, we believe it actually has a significant effect of exacerbating social differentiation, rather than promoting a more inclusive approach that strives for secure learning of key curricular elements by all. It also distorts pupil learning, for instance creating the tragedy that some pupils become more concerned for 'what level they are' than for the substance of what they know, can do and understand. This is an unintended consequence of an over-prescriptive framework for curriculum and assessment' (*National Curriculum Expert Panel Report*, London: Department for Education, 2011, p.44).
- ³⁵ See Burgess, S. (2016) *Human Capital and Education: The State of the Art in the Economics of Education*. IZA DP No. 9885. Bonn, Germany: Institute for the Study of Labor. With reference to a narrow but precise definition of teacher effectiveness and reporting on key interests in the research literature, Burgess writes: 'The second key characteristic of interest is the teacher's own academic background. Here there seems to be consensus that this is largely uncorrelated with effectiveness' (p. 32).
- ³⁶ See Chapter 5 'Research on the Effects of Coursework in the Arts and Sciences and in the Foundations of Education' by Floden & Meinketti in Cochran-Smith, M. & Zeichner, K. (2005) *Studying Teacher Education: The Report of the AERA Panel on Research and Teacher Education*. New York & Washington, DC: Lawrence Erlbaum & AERA.
- ³⁷ Medwell, J., Wray, D., Poulson, L. & Fox, R. (1998) *Effective Teachers of Literacy. A Research Project by the University of Exeter*. Sponsored by the Teacher Training Agency. Exeter: University of Exeter; available online at <http://www.leeds.ac.uk/educol/documents/000000829.htm>; accessed 7/11/16.
- ³⁸ See Chapter 7 of Hattie, J. (2008) *Visible Learning: A Synthesis of Over 800 Meta-Analyses Relating to Achievement*. London: Routledge.
- ³⁹ *Rousing Minds to Life: Teaching, Learning and Schooling in Social Context* (Cambridge University Press, 1988) by Roland Tharp and Ronald Gallimore gives one particularly powerful perspective on this issue based on psychological and biobehavioural sciences research as well as a 15 year-long educational programme.

⁴⁰ Lee Shulman modified his original conception of 'pedagogical content knowledge' in 2004 to indicate a more interactive and dynamic process of 'knowing' rather than stable categories of knowledge; see Shulman, L.S. & Shulman, J.H. (2004) How and what teachers learn: a shifting perspective. *Journal of Curriculum Studies* 36,2: 257 – 271.

⁴¹ Chevallard, Y. (1991) *La Transposition Didactique. Du savoir savant au savoir enseigné*. 2nd edn. Grenoble: La Pensée Sauvage. The European words *didactique* or *didatik* represent historical traditions of inquiry into teaching school subjects that are both more inclusive of a wider range of pedagogical approaches and more theoretically nuanced than is common in Anglo-American discussions of teaching.

⁴² The Schools Council and the Nuffield Foundation are two organisations in England that, historically, supported extremely high quality curriculum and teacher development work, jointly planned and undertaken by school teachers and university-based teacher educators.

⁴³ For example: Gorard, S. (2016). The complex determinants of school intake characteristics and segregation, England 1989 to 2014. *Cambridge Journal of Education* 46,1: 131-146.

⁴⁴ London Challenge was a city-wide initiative established by the Labour government in 2003 to address secondary school improvement in the nation's capital. A key dimension of the initiative was a focus on partnership and shared purpose between schools whilst avoiding negative language that could stigmatise schools and inhibit their improvement. London Challenge was extended to primary schools in 2008 and ran until 2011. It is widely credited with having a significantly positive effect on schools and outcomes for students in London even when demographic factors are considered.

⁴⁵ For a discussion of the CHAT concept of co-configuration with reference to teacher education, see Ellis, V. & McNicholl, J. (2015) *Transforming Teacher Education: Reconfiguring the Academic Work*, London & New York: Bloomsbury.

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