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RESEARCH REPORTS

POLICY AND RESEARCH EVIDENCE IN THE 'REFORM' OF PRIMARY INITIAL TEACHER EDUCATION IN ENGLAND

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A report for the Cambridge Primary Review Trust

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A briefing which summarises key issues from this report is also available. The report and briefing may be downloaded from the Trust's website: www.cprtrust.org.uk. The website also provides information and other reports in this series, and about the many publications of the Cambridge Primary Review.

We want this report to contribute to the debate about the future of primary education, so we would welcome readers' comments on anything it contains. Please write to: administrator@cprtrust.org.uk. The report contributes to the Trust's research programme, which includes both funded research projects and this series of specially-commissioned research reviews relating to the Trust's eight priorities.

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POLICY AND RESEARCH EVIDENCE IN THE 'REFORM' OF PRIMARY INITIAL TEACHER EDUCATION IN ENGLAND

1 - INTRODUCTION

1.1 - About the 2016 review

Scope of the review

This review covers the period from 2009 to 2016, and mainly addresses the policies and practices introduced by the Conservative and Liberal Democrat Coalition Government (2010-2016) and the Conservative Government (2016-to date). Unquestionably, this period has been one of the most radical and accelerated periods of reform to Initial Teacher Training (ITT) ever experienced in England. The reforms have been characterised by one agenda; the move towards school-led ITT that started, it could be argued, 30 years ago, although undoubtedly the last six of those have seen a marked increase in its intensity, the impact of which is only beginning to be revealed. Consequently, there is as yet limited research or other evidence about how the ITT sector is responding to the changes and what lasting impact they will have on schools. For instance, little is known about: the shifting roles and responsibilities of the teacher educator workforce; how the curriculum delivery of subject, pedagogic and professional knowledge is being managed by providers and schools; and, most important, what the future impact of the changes will be on teacher quality.

It is increasingly difficult, and perhaps unhelpful in terms of policy analysis or practice, to maintain meaningful separation between school and ITT sectors. For this reason, the report does not always maintain a sharp focus on primary ITT, but instead mirrors the real-world situation where the border with school policy, curriculum and pedagogy is permeable. The report therefore includes some background information on the school sector, both for context and to support the wider understanding and interpretation of the implications for ITT policy and practice.

A further caveat is that the policy context – of both the ITT and school sectors – has remained highly fluid throughout the period covered by this report, and even during the course of its compilation. Fundamental changes continue to be made, even to flagship policies, and even after they have been set out in the government's legislative agenda at the opening of parliament. The report, therefore, although hopefully accurate at the time of its completion, will almost certainly be out-of-date before it is published.

The 2016 review builds on the CPR Primary Research Briefing 6/3 *Primary teachers: initial training, continuing professional development and school leadership development* (McNamara et al., 2008) which presented a contemporaneous analysis of the three strands of teachers' professional learning at the time of publication. The analysis was undertaken against the background of the development of policy and practice over the previous 25 years (from 1984 to 2008). It tracked the policy drivers, both laterally across the three strands and chronologically. This current review will locate and anchor the reader in the historical context

of 2008-2009, the penultimate year of the New Labour Government, prior to the election of the Coalition Government in May 2010. The scope of this review differs from the last in two important aspects; it focuses solely on ITT because of the extensive and significant changes that have occurred in the sector since 2008 and, given the increasing divergence of policy across the UK, it focuses exclusively on England. It takes as a starting point what the previous review, and the final CPR report, concluded about the training of primary teachers; and it covers developments in ITT-related policy since 2008, in the context of reform of the structure and governance of the school system and attendant changes in primary curriculum and assessment. It considers key issues relating to core pedagogy, subject/pedagogic content, and professional knowledge and skills for the primary ITT curriculum. It also examines trends in primary teacher recruitment, supply and retention, the diversification of routes into primary teaching, and, in particular, the impact of the inexorable drive towards school-led ITT. The policy reform regarding the latter has inevitably had greatest impact on the postgraduate routes into primary teaching, therefore many sections of the review give more specific attention to issues relating to this sector, rather than the undergraduate sector that has remained comparatively unaffected.

In setting the scope of this review we realise that some important debates, particularly subject-specific debates, have not been considered in the detail they perhaps warrant. In a review of this size and scope it has clearly not been possible to include all debates around every subject or area in the complex primary curriculum. We have therefore deliberately focused on debates about subject knowledge, pedagogic content knowledge, and subject specialisms, with some references to the core subject areas of mathematics and English. We also include brief references to science and physical education (PE): the former because of its continued – if ambiguous – status as a core subject; and the latter because it has been the focus of some attention from policy-makers since 2008. Much valuable work is, of course, undertaken regarding a broad range of non-core subjects, by subject associations, higher education institutions (HEIs) and other ITT and school stakeholders. The absence of such work here reflects pragmatism, in response to the sheer volume of literature and impossibility of being inclusive, and is also, perhaps, symbolic of the current positioning of non-core subjects in the primary curriculum.

A general point alluded to several times in this review, is how ITT policy over the last eight years has been mobilised to align ITT with the primary curriculum, in order to advance the reform agenda. This fact was also noted in the last review regarding the previous decade. In acknowledging this, the review mirrors the key challenges facing the primary sector as a whole, namely the intrusiveness of the government's reform agendas in relation to governance, regulation and policy requirements in respect of accountability, curriculum and assessment, which have rendered many fundamentally important debates peripheral.

Having defined the scope of this review, the next sections outline its methodology and its structure.

Methodology of the review

The main data sources used relate to the period 2008-2016, and include academic research and professional literature, together with policy documents, official reports, databases and

electronic publications. Searches revealed a relative wealth of published evidence in some areas, such as teacher supply and recruitment, and limited amounts in other areas, such as the changing nature of teacher educators' professional roles. However, obtaining a coherent overview was often challenging, for several reasons. First, much of the research and literature demonstrated a marked failure to differentiate adequately between training phases and/or school contexts (e.g. there was limited literature that differentiated between primary and secondary training phases, or pertained specifically to the special school sector or multi-academy trusts). Additionally, there is some evidence that training, particularly in school-led routes, is increasingly undertaken in mixed phase cohorts. For this reason, although we have attempted to maintain a sharp focus on primary teacher education throughout the report, it has not always been possible. Occasionally, for example in Chapter 3, this is because reference to the secondary sector is offered by way of a comparator. Second, much of the research and literature was focused on one particular teaching and learning knowledge or skill development or assessment issue or approach in a single training route or context. Third, much of the research and literature was very small scale and sometimes not explicit about its empirical base.

Perhaps the overriding limitation of the literature, at a time when the sector is more fragmented and diverse than ever before, however, is the lack of systematic and robust evidence relating to the effectiveness of the various training routes and programmes, and the value for money that they represent. A nascent corpus of work in relation to this is beginning to be undertaken, and we will report on this in Chapter 3. However, given the policy changes are so recent, numerous and fluid, as noted above, it is difficult to ascertain correlation let alone causation across the inputs, impacts and outcomes of ITT. For this reason, some of our commentary and professional judgements on the state of the sector are inevitably provisional and tentative. Having said that, our intention is that this research report should be selective rather than exhaustive. Adopting such a pragmatic approach enables us to restrict the task to a manageable level, whilst allowing us to highlight the published evidence, where it exists, which in our professional judgement is of the greatest significance for educational policy and practice.

Throughout this review (other than in the title) we refer to ITT – *initial teacher training* – rather than *initial teacher education* or *initial teacher education and training*. In addition, we refer throughout to *trainees* rather than *pre-service teachers* or *student teachers*. The formal redesignation of teacher education as teacher training that occurred in 1994 augured a profound ideological shift. We recognise that many teacher educators were (and are) not comfortable with it, but the vast corpus of official documentation referred to in this review, and a significant proportion of the research literature, uses this terminology. Additionally, given many trainees are training on-the-job in salaried positions, they are no longer strictly 'pre-service' or 'students' in the conventional sense of the terms.

Structure of the review

The review is divided into five chapters. This introductory chapter, having outlined the scope and methodology of the review, positions this 2016 update in relation to the policy context of the original 2008 review of ITT. The framing of the context of this review is completed by documenting a timeline of key changes since 1984 (which we argued in the last review was a

watershed for ITT), and then summarising the conclusions of the 2008 review of teacher professional learning and the relevant conclusions and recommendations of *Children, their worlds, their education: final report of the CPR*. Chapter 2 begins by considering the current context within which ITT operates, including the key education sector policy reforms set out in the 2010 and 2016 education White Papers, especially the academies programme. It continues by considering the ITT reform agenda, and reviewing the ITT-specific government policy documents and parliamentary and other commissioned reports undertaken since 2008. It examines, in particular, the impact of the reforms on the location and models of ITT partnership in England, and the changing identity, role and responsibilities of the teacher educator. Chapter 3 examines the demographics of the teaching workforce, focusing particularly on the primary sector, and considers the flow of teachers into and out of the profession. It looks at the national teacher supply model and its fitness for purpose in charting the supply and retention patterns across the country. The chapter goes on to consider the changing training landscape, profiling the various routes into teaching and their perceived costs and benefits. The promotion of teaching as a career and the application process are considered, together with the trainee demographic. Chapter 4 focuses on ITT core curriculum, skills and pedagogy, and comprises three substantive sections: models of teaching and teacher preparation; primary ITT curriculum change; and, primary ITT curriculum components. Finally, Chapter 5 offers conclusions and recommendations for policy and practice.

1.2 - Timeline of key primary training policy reforms, 1984-2008

1984 was a watershed for the ITT sector, gradually ushering in a prolonged era of sustained and radical reform, which saw increasingly centralised regulation and monitoring of all aspects of ITT, and increased levels of accountability. Alexander (1984) identifies the period of Keith Joseph as Conservative Secretary of State for Education, and the availability, from Her Majesty's Inspectorate (HMI) surveys, of increased evidence of the impact of training on the competence of new teachers, as the catalysts for central government's interest in the sector. The weakness in the primary sector was identified to be subject knowledge and/or its application, not teaching skills, which were deemed more proficient than in the secondary sector. Increased subject-specific admissions criteria and specialism study were required (see below), together with more practically based teacher education. The direction of travel was set and the same approach was adopted by governments of all political persuasions. A 'discourse of relevance' (Maguire and Weiner 1994) took hold, and the privileging of performativity and practical knowledge over reflective skills and practical theoretical understanding became the norm.

Key events impacting directly or indirectly on the ITT sector during this period are outlined below:

1984 Council for Accreditation of Teacher Education (CATE) was established to approve, manage and certify training providers. Trainees were required to undertake a subject specialism alongside their generalist training on postgraduate courses, and undergraduates were required to study a relevant subject for two years.

1988	National Curriculum was introduced in the 1988 Education Reform Act, together with Key Stages and associated Attainment Targets, which led to national testing.
1989	Partnership management of ITT provision was introduced, and the minimum length of school-based training was prescribed to be 100 days for undergraduate routes and 75 days for postgraduate routes. School-based Licensed and Articled Teacher Schemes were introduced (DES, 1989).
1993	Partnership management arrangements became mandatory; the minimum length of school-based training increased to 90 days for postgraduate and 160 days for undergraduate routes. Competences-based assessment of subject knowledge and classroom skills was introduced (DFE 1993a). School-Centred Initial Teacher Training (SCITT) was introduced (DFE 1993).
1994	Teacher Training Agency (TTA) replaced CATE.
1994	Ofsted was established.
1998	National Curriculum for ITT and Qualified Teacher Status (QTS) was introduced.
1998	One-year induction period was mandated to confirm QTS for newly qualified teachers.
1998	General Teaching Council (England) was established.
1998	Licensed and Articled Teacher Schemes were renamed and relaunched as the Graduate Teacher Programme and then under the umbrella Employment Based ITT (EBITT).
1998	Teacher supply crisis began culminating in a nearly 50% increase in trainee numbers over next six years. Training Schools established to increase capacity and quality in school-based training.
1998/99	Literacy and numeracy strategies (non-mandatory) were introduced into schools.
2000	Fast Track programme was launched (and axed in 2006).
2001	QTS skills testing was introduced.
2002	QTS standards document replaced National Curriculum for ITT (revised in 2007 and 2012). The requirement for subject specialisms was abandoned.
2002	National Partnership Project launched to build capacity and quality in partnership schools.
2002	Training bursaries were introduced (in part to mitigate the ongoing teacher supply crisis).
2002	Teach First was introduced in London (and rolled out to regions from 2005/2006).
2005	TTA became TDA (Training and Development Agency) with extended remit for training and development of the school workforce and workforce remodelling.
2005	Undergraduate sector reduced to 37% (from 53% in 1998) and half of undergraduates now taking shortened 3-year degrees with QTS.

2007   Split imposed between M (masters) level Postgraduate Certificate of Education (PGCE) and the H level (honours undergraduate) Professional Graduate Certificate of Education (Prof.GCE).

1.3 - Conclusions of 2008 survey of research and the recommendations of the CPR final report

The conclusions of the 2008 review highlighted issues pertaining to each of the three sectors (initial training, continuing professional learning and leadership development), and gave examples from each. In the summary below, however, we have included just those examples that pertained to the ITT sector. We concluded that:

1. ITT partnerships, although they had encountered some issues in developing school-based capacity, were generally strong and innovative and had provoked international interest. There was also evidence, according to Ofsted, of a qualitative improvement in the standard of provision and preparedness of newly qualified teachers.

2. ITT provision had been refocused to very closely engage with the subject and pedagogic knowledge of the primary core curriculum, which brought with it an intensification of programmes that left little time for the non-core curriculum and previously valued key aspects of professional learning.

3. The ITT sector had, over an extended period, been subject to an increasing level of centralisation, monitoring and accountability. This had engendered a 'technical rationalist' approach to education outcomes and processes which had restricted the nature of professional engagement and created a 'culture of compliance'.

4. Juxtaposed with this micro-managed environment was a rapidly growing 'alternative' provision sector of school-centred and employment-based routes, which was not subject to the same regulation of accountability of performance and process measures. Characterised by a different philosophy and model of professionalism, the alternative routes were also not required to work collaboratively in partnership with HEIs.

5. The introduction of the QTS award as accreditation for teacher status in England and Wales caused a disarticulation between professional and academic teacher qualifications that had implications for both the status and transferability of teaching qualifications. In the postgraduate training sector this disjunction was most apparent between the (often) QTS-only employment-based routes and the traditional academic routes offering PGCE (with QTS) qualification.

6. Finally, there was some reduction in ITT capacity and capability to engage fully in the quasi education market place. For example, there was arguably a failure to capitalise fully on the significant potential of ITT's contribution to teacher development and school improvement, despite the increasing emphasis on coaching and mentoring as a model for professional learning. Increasing political control had led to an inherent instability in the sector as programmes and other initiatives were vulnerable to changes of government and

ideology. This had serious consequences for education departments, and led to short-term planning and associated effects like the casualisation of staffing. Further pressures on staff recruitment, from the school sector to the teacher educator workforce, resulted from the relatively lower salary levels and the perceived challenge of making the transition between cultures (e.g. acquiring new knowledge and skills especially research and scholarly activity). Internal pressures on ITT came from the effects of increased research selectivity in the HEI sector which led to the bifurcation of research and teaching staff and reduced core research funding for many institutions heavily involved in ITT, meaning that the vast majority of teachers were being trained in departments with no core research funding.

The final CPR report drew its recommendations from a vast corpus of evidence, including 28 surveys of published research across eight strands of enquiry. In respect of primary ITT, the report concluded that primary subject specialists should have a much greater role in Key Stage 2, where possible, and thus a greater variety of ITT training models should be offered, such as fully generalist, generalist with specialism, combined (perhaps two or three) domains, or single-domain specialist. Given the ongoing intensification of ITT programmes, it recommended that postgraduate training should be extended to two years to allow for a greater focus on: pedagogy; recent research on the social, emotional and developmental context of, and strategies for, learning, teaching and assessment; developing subject expertise across the curriculum; and understanding the wider discourses of childhood, curriculum, knowledge and skill. The report also called for a cultural shift that will see the ITT sector move from a culture of compliance to one of criticality, leading to enhanced professional engagement with the curriculum and evidence-based pedagogy. Finally, the report recommended that the Teachers Professional Standards should be reviewed and properly validated against research and pupil learning outcomes; and in addition, should discriminate securely between the different professional levels.

2 - ITT POLICY CONTEXT

The Schools White Paper, *The Importance of Teaching* (DfE, 2010), published within months of the election of the new Coalition Government, effectively set the education system reform agenda for the decade. Broadly speaking, it had three strands.

First, at system level, it sought to **increase the autonomy of schools whilst retaining high levels of accountability**, by: (1) accelerating the academisation programme and launching the free schools programme; (2) prescribing more rigorous knowledge-based curriculum, assessment and qualifications frameworks; and (3) refocusing inspection on teaching and learning and performance outcomes.

Second, at workforce level, it sought to **increase the quality of its teachers and give schools a greater role in training new teachers** by: (1) raising the quality of new entrants; (2) developing a national network of teaching schools to take a lead in the initial and continuing development of teachers and system and subject leaders, and school improvement; and (3) increasing the role of schools in training and the amount of time spent by trainees in the

classroom, focusing particularly on the core skills of teaching reading and mathematics, and managing behaviour.

Third, at pupil level, it sought to **distribute resources more equitably and progressively**, importantly, targeting the most disadvantaged pupils and increasing their aspirations, achievement and life chances with £2.5 billion extra funding for the Pupil Premium initiative.

Educational Excellence Everywhere (DfE, 2016a), the subsequent Conservative Government's White Paper, was consistent with and accelerated the implementation of a number of key policy agendas of the 2010 White Paper. It broadly focused on: developing great teachers and great leaders; realising the ambition of a cohesive, school-led, self-improving academy school system with fairer and more comparable accountability measures; and implementing a national funding formula for schools, whilst still targeting support at individual children according to need. Albeit a number of the measures announced have since been abandoned.

As noted in Chapter 1, it is no longer helpful, nor possible, to separate policy documents relating to the school and ITT sectors. Over half of primary postgraduate ITT is school-led, and all primary ITT is located principally in primary schools. ITT policy documents must be read in conjunction with schools White Papers. Not only are the latter policy documents of key interest to the ITT sector, but the structure of the school system is of key importance for the management and sustainability of ITT partnerships and providers. As well as the ITT and school sectors being inextricably linked, so are the primary and secondary sectors because of a rapidly increasing number of all-through schools and mixed phase multi-academy trusts (see below).

2.1 - The school sector: increased autonomy

Together the two schools White Papers amount to the most radical change of the structure, governance and funding of the school system for a generation (for a full analysis of the autonomy, accountability and quality of academies in the school system see Mansell, 2016). Academies are publicly funded independent schools that are exempt from key regulations, including the National Curriculum (although they must offer a broad and balanced curriculum), teachers' pay and conditions of service, and (as of 2012) the requirement to employ qualified teachers. Academies are still required to adhere to the same admissions, special needs and exclusion policies as maintained schools. Broadly speaking academies can be divided into two types, 'sponsored' and 'converter', and there is a small number of other academy type schools that are publicly funded and not-for-profit schools. These are generally categorised as either City Technology Colleges or Free Schools, and all have similar governance and regulatory arrangements as other academies.

The sponsored academies programme was devised in 2002 by the (New) Labour Government, and aimed at chronically underperforming secondary schools. It grew very slowly, and at the time of the election of the Coalition Government in 2010 there were still only 203 academies. The incoming Secretary of State for Education, Michael Gove, extended the programme immediately by launching a converter academies programme, with a vision that all maintained primary and secondary schools would become academies, free from local

authority control. Outstanding schools were invited to apply, in the first instance, and by the end of 2010 the number of academies had already doubled. The possibility to convert was extended to all schools including, in January 2011, special schools, and in September 2011 the first free schools opened. In 2012 there was an attempt to speed up the programme, particularly in the primary sector, by forcing 'failing' primary schools to become sponsored academies. By June 2016 the number of academies and free schools had increased to a staggering 5,773, as is shown in Table 1.

Phase of education	Converter Acad.	Sponsored Acad.	Total Acad.	Free (inc. studio etc.)
Primary (incl. middle)	2,141	984	3,125	117
Secondary (incl. through & 16+)	1,432	596	2,028	199
Special	149	33	182	51
Alternative Provision	43	13	56	16
Total	3,765	1,626	5,391	383

**Table 1: Number of academies and free schools by phase
(30 June 2016) Source: DFE, 2016C**

The number of state schools by phase, as of January 2016, was 3,401 secondary, 16,778 primary, and 1,039 special schools (DfE, 2016d). Table 2 shows academies as a percentage of state-funded schools in June 2016, illustrating the stark divergence in the uptake of conversion between the phases. There was evidence that the 'voluntary' academisation programme had stalled, particularly given the marked reluctance of the primary sector to convert.

Type of establishment	Primary	Secondary	Total
Academies	18%	60%	26%
Free Schools (including studio schools and UTCs)	1%	6%	1%
LA Maintained	81%	34%	73%

**Table 2: Academies and free schools as percent of state-funded schools by phase
(30 June 2016) Source: DfE 2016c**

The House of Commons Education Select Committee (Education Committee, 2015), drawing on a large evidence base (including Hutchings et al., 2014), was sceptical of the value and management of the academies and free schools programme. In their report published on 21 January 2015 they concluded, "There is at present no convincing evidence of the impact of academy status on attainment in primary schools. The DfE should commission such research as a matter of urgency. The primary sector benefits more from collaborative structures, whether with or without academy status" (p.3). The report was particularly critical of the DfE's lack of transparency and accountability in monitoring and regulating multi-academy trusts, their growth and their potential failure; not least that Ofsted did not have the power to

inspect them. Power to inspect was granted and, following the first round of focused inspections of seven multi-academy trusts, Sir Michael Wilshaw's (2016a) deeply concerning report documented a raft of weaknesses, including poor pupil progress (particularly for disadvantaged pupils) and "lack of leadership capacity and strategic oversight by trustees" (p.2). He observed that, "many of the trusts manifested the same weaknesses as the worst performing local authorities and offered the same excuses" (p.2). These conclusions support the Sutton Trust Chain Effects 2015 report (Hutchings et al., 2015): "many chain sponsors, despite several years in charge of their schools, continue to struggle to improve the outcomes of their most disadvantaged students" (p.3).

Notwithstanding the advice from her Chief Inspector and others, Nicky Morgan pushed ahead with her plans, and on 17 March 2016 announced in the White Paper, *Educational Excellence Everywhere* (DfE, 2016a, p.53), "By the end of 2020, all schools will be academies or in the process of becoming academies; by the end of 2022, local authorities will no longer maintain schools". Further, the White Paper stated that she sought to, "Promote greater collaboration between schools, particularly through multi-academy trusts (MATs) which we expect most schools will join". This prompted an immediate backbench rebellion from those concerned about outstanding (often rural) primary schools being forced to join multi-academy trusts, which in May 2016 numbered around 1,140, (DfE, 2016b). On 13 April 2016, Schoolsweek (2016) reported that Morgan conceded to parliament, "to be absolutely clear we will never make any successful school, large or small, that is capable of operating alone, join a trust" but claimed that, "many schools want to join a trust because they can see the benefits. Two thirds of current academies have chosen to be part of multi-academy trusts". Schoolsweek noted that the National Schools Commissioner had previously suggested a school with a roll of around 1,000 children was self-sustainable, and pointed out that the smaller (often rural) primary schools, that were the source of the original government rebellion, were unlikely to fall into this category. By 6 May, Morgan was forced to further retract the department's proposals on forced conversion, restricting it to coasting schools and schools in local authorities deemed to be chronically underperforming, or those rendered unviable by the number of schools remaining in their control. On 27 October, Justine Greening, the new Secretary of State for Education, made the announcement, albeit 'buried' in a written ministerial statement on further education and technical skills, that plans for forced academisation had been abandoned altogether.

2.2 - The teacher education sector: increased quality of teachers and greater role for schools

In a special edition of the Journal of Education for Teaching, reviewing international changes in initial teacher education over the last 40 years, Gilroy (2014) offers an analysis of the English context and identifies the 1980s as the common point where a number of governments seized upon teachers and teacher education as scapegoats for what they "perceived as the failings of education in a changing social and economic context" (p.625). He unmasks England as beset by "policy-makers whose approach seems to be ideology heavy and evidence light" (p.630). This is a point with which Golding (2015, p.117) concurs, "Unexceptionable rhetoric about 'evidence-based policy' (DfE, 2010) is undermined when the use of that evidence is partial or biased. Such arguments were used to justify the establishment of 'Teaching Schools' and expanding 'Academy' chains that followed the White Paper".

Even by previous standards, the impact of the Schools White Paper, *The Importance of Teaching* (DfE, 2010), was seismic (on the HEI provider sector in particular), auguring as it did an inexorable move towards school-led teacher training. The White Paper was followed in close succession by a raft of other government and parliamentary documents: *Training our Next Generation of Outstanding Teachers: An improvement strategy for discussion* (DfE 2011a), and *Implementation Strategy* (DfE 2011b); *First Report of the Independent Review of Teachers' Standards: QTS and core* (DfE, 2011c); the Education Select Committee's two reports, *Behaviour and discipline in schools*, and *Government Response* (Education Committee, 2011 a, b, c); the Education Select Committee report, *Great Teachers: Attracting, training and retaining the best*, and *Government Response* (Education Committee, 2012 a, b, c); the Education Committee's report on *School Partnerships and Co-operation* (Education Committee, 2013) and on *Academies and Free Schools* (Education Committee, 2015).

The first two documents set out in more detail the government's plans to reform teacher training to deliver the policy agenda of the 2010 White Paper; the latter eight were reports of the Education Committee's scrutiny of the White Paper and government's plans to reform teacher training. A further independent report on ITT core skills and knowledge was commissioned in 2014 and reported in 2015 (DfE 2015a), resulting in several expert groups being established. Four of these groups reported in July 2016 (see below), shortly after the publication of the 2016 White Paper *Education Excellence Everywhere*.

Positive messages of reassurance in the White Paper and parliamentary reports about the value of training partnerships with universities were somewhat undermined when, in June 2012, a 'government source' was reported in the Daily Telegraph as saying: "For too long left-wing training colleges have imbued teachers with useless teaching theories that don't work and actively damage children's education". The article went on to report that ministers were "also planning to slash the number of students on university based courses over the next three years—half shifting to on-the-job training in schools by 2015" (Patton 2012). This intelligence turned out to be rather more accurate than the avowal in the ITT strategy document (DfE, 2011a, p.15) that, "We do not think that this is a change that should be rushed: it is far more important to preserve good quality training and build capacity".

As outlined above, however, the key strands of the White Papers (DfE, 2010, 2016a), and the government's ITT strategy and implementation plan (DfE, 2011a, b), as far as the ITT sector was concerned, were to: increase quality of entrants and incentivise and retain high achieving graduates, especially in shortage subjects; establish a network of teaching schools; reform training to make it easier for schools to lead and to prepare trainees more successfully for the classroom; and, make it easier to apply for teacher training. According to a raft of parliamentary enquiries and other reports, the latter is still far from being achieved six years on (see Chapter 3). Immediate and significant changes to policy and practice in the ITT sector were to:

(1) Attempt to raise the quality of new entrants to the profession. A dual approach was adopted of targeting bursaries to attract graduates with higher degree classifications, especially those in shortage subjects; and increasing the rigour of the skills tests and repurposing them to be a condition of entry to training, rather than exit. The Education

Committee (2012a) questioned the evidence the DfE had to support this approach and was, "surprised by the lack of research into the qualities found to make for effective teaching, including any potential link between degree class and performance" (p.20, para 42). They recommended research on this matter be conducted urgently. There is quite a significant body of international research on the question of whether 'more' teacher subject knowledge necessarily means 'better' teaching, but conclusions are at best equivocal. There is a convincing corpus of evidence that links 'lack' of sufficient subject knowledge to lack of effectiveness in teaching, but equally, evidence indicates there is a 'threshold' effect, beyond which additional study offers no increased benefit in terms student outcomes (Brown and McNamara, 2011, pp.52-53). Maguire (2014, p.775) cites Darling-Hammond (2000, p.167) as supporting this hypothesis, suggesting the relationship between teacher subject knowledge and better teaching "is curvilinear; that is, it exerts a positive effect up to a threshold level and then tapers off in influence". Certainly, Askew et al. (1997) concluded, from a study of 90 primary teachers, that mathematical qualifications were not a reliable indicator of the mathematical knowledge required for teaching. Indeed, they demonstrated a slightly negative correlation between mathematics knowledge and pupil outcomes in mathematics; continuing professional development was found to be a better predictor, as was the *type* of mathematical understanding.

The Education Committee (2012a) was equally skeptical about the deployment of bursaries, and cautioned, "Whilst bursaries will help to attract people with strong academic records, greater effort is also needed to identify which subset of these also possess the additional personal qualities that will make them well-suited to teaching" (p.19, para 39). They added, "We do, however, question the use of degree class as the determinant of bursary eligibility for primary school teachers. For this phase of education, a redesign of the criteria towards breadth of knowledge (at GCSE and A Level) may be more appropriate. Again, this of course needs to be complemented by a thorough testing of suitability as a teacher" (p.20, para 40). In this, the Education Committee raised an important point: in the words of Murray and Passy (2014, p.500) "how well equipped are primary ITE [initial teacher education] students for the still dominant role of generalist class teacher in which they are required to teach a considerable number of single subjects at depth and to make effective cross curriculum links to ensure high-quality learning for their pupils". Given the current context in which increasing time is spent practising teaching, and less time is spent on quality structured learning opportunities for subject/pedagogic content knowledge, this important issue will be picked up in points 3 and 4 below and addressed in more detail in Chapter 4.

Putting aside for the moment the efficacy of the strategy, what of its effectiveness? The National Audit Office (NAO), five years on, assessed the effectiveness of the government strategies to attract more highly qualified graduates into teaching, and noted some success: "The proportion of postgraduate trainee entrants with at least an upper-second degree increased from 63% in 2010/11 to 75% in 2015/16, exceeding changes in wider graduate results" (p.10). However, they concluded that, "The Department's indicators of trainee and training quality are encouraging, but not yet enough to prove that training is improving the quality of teaching in classrooms" (p.10). The changes to the skills test reported in the next chapter include claims of a negative impact on recruitment and an increased level of applicant anxiety (Universities UK, 2014). As will also be reported in the next chapter, the overall costs

of training are complex to unpick, and estimations of the value for money offered by the different routes are only just beginning to be assessed (Allen et al., 2016a). Primary bursaries for 2017/18 amount to just £3,000 (for an applicant with a first class honours degree), and up to £6,000 for trainees with a first class honours degree (and an A level grade A or B in maths or physics) on a primary mathematics specialist course. By comparison, central costs for many secondary routes can be huge, with bursaries up to £30,000 (for a physics student with a first class honours degree). The NAO (2016) reported that DfE had spent £620 million on bursaries in the five years leading up to 2014/15. Although they had "general evidence that bursaries have some impact in attracting people to train as teachers" (DfE calculated that £1,000 in bursary value led to a 2.9% increase in applications), the NAO thought that, "given the level of investment", they ought to do more "to demonstrate a longer-term positive impact" (p.11). The Public Accounts Committee (2016) concurred, noting that the "Department has not assessed the impact of bursaries on the numbers who go on to complete their training and teach in schools or, indeed, whether recipients would have applied anyway without the incentive of a bursary".

The government invoked two other tools to raise the quality of new entrants to the profession. The first was new teachers' standards (for QTS and core), which were intended to have a "real and positive impact on the trainees and teachers" (DfE, 2011c, p.4). It was perhaps a missed opportunity that the working party of 15, appointed by the Secretary of State Michael Gove, included expertise from just one HEI member (a Professor of Philosophy). The standards (DfE, 2012) caused ITT providers some consternation because they aimed to "set out a clear baseline of expectations for the practice" (DfE, 2011c, p.6) and were somewhat undermined by Ofsted's 2012 reclassification of the 'satisfactory' baseline as 'requires improvement', meaning that the standards baseline was no longer acceptable for aspiring good or outstanding providers.

The second tool was increased accountability and rigour in the inspection process: the introduction of the new two-phase inspection framework for ITT providers in June 2014 (Ofsted, 2014). Ofsted is a non-departmental body which claims, on its website, "we report directly to Parliament and we are independent and impartial" (Ofsted, 2016). Yet this was far from apparent a year earlier, when Ofsted (2013a) had issued a press release saying, "Every one of the providers to have received the highest grade is a small employment-based partnership with schools centrally involved. Some of these have recently achieved school-centred initial teacher training (SCITT) status from the Teaching Agency… None of the higher education institutions inspected so far has been awarded an outstanding judgement for overall effectiveness". UCET [Universities' Council for the Education of Teachers] (2013) wrote to Sir Michael Wilshaw complaining that the release was "misleading, inaccurate and inappropriately political". But it was, of course, exceedingly well timed in March 2013 to encourage the expansion of the new School Direct training route, launched in September 2012 (see below), and to promote the SCITT route that, although launched in 1993, had not expanded greatly in two decades. Also, just two years earlier, Ofsted (2011) had reported that HEI-led partnerships had consistently exhibited more outstanding provision over the previous three years than school-led partnerships (see below).

(2) Establish a network of teaching schools. The flagship policy of the government White Paper *The Importance of Teaching* (DfE, 2010) was the creation of a self-managing, self-

improving school system. Teaching schools were to spearhead the turnaround of the system, leading an alliance of local schools and working with strategic partners (that may include schools, local authorities and universities) in six key domains: providing school-led ITT (through School Direct or SCITT routes); offering a range of continuing professional development opportunities; coordinating school-to-school support locally; identifying and developing leadership potential locally; recruiting and managing specialist leaders of education, and developing evidence-informed practices and improvement strategies by engaging in/with research.

Schools judged by Ofsted to be outstanding are eligible to apply for the status of teaching school. The first cohort of 100 schools was announced in September 2011, and as of October 2015 there were 765 teaching schools (roughly, 50% primary/nursery, 40% secondary, and 10% special) across nearly 600 teaching school alliances in England (regional distribution of teaching schools is roughly 4% of schools in London and 2-3% of schools across the other government office regions); and more are planned. An evaluation of the initiative (Gu et al., 2015, p.189) found that "it has taken almost all teaching school alliances one to two years to become clearer about who they are (i.e. identity), what they are for (i.e. mission) and how to achieve their aims (i.e. action)", and deemed that the success of the alliances depended on "**individual and strategic alignment** of organisational priorities, needs and interests as well as their expertise, skills, resources and capacity to **pursue a shared moral purpose**" (emphases in the original). They concluded, "the teaching school model clearly has an important role to play in driving forward a school-led 'self-improving' system. However, as yet, the lack of measured overall effect on pupils' academic outcomes within [teaching school alliances] suggests that caution should be exercised in making claims concerning the potential contribution of the teaching school model to raising attainment in schools across the partnership" (p.190).

In terms of the progress of teaching school alliances in providing school-led ITT, Gu et al. (2015, pp.110-14) found that most alliances:

- understand the continuum of professional development from ITT, newly qualified teacher (NQT), continuing professional development (CPD) and leadership development, but processes are not yet coordinated and synergies are not effectively leveraged;
- feel School Direct offers real ownership of the admissions process, but think recruitment can also be a challenge both in terms of the number of applicants and their quality;
- think funding is insufficient to cover the scope of work required, and capacity is a 'massive issue' in terms of coordination of ITT arrangements and processes;
- appreciate major opportunities for teaching school alliances to work with universities in the delivery of high quality ITT, and have invested majorly in the development of SCITTs.

However, "some alliances continue to express concern that ITT practice may lack depth and scholarship, especially in terms of lack of engagement in challenging reflective practice… 'My fear is that when school people no longer have knowledge of university PGCE course content, there will be a master/apprentice model of training' (Vice-Principal, Cambridge Teaching School Network)" (p.114). Caution can perhaps also be detected in the Education Committee's (2012a) support of the initiative, "We welcome the creation of Teaching Schools, and note that

they will be expected to work with universities, which we strongly support: we believe that a diminution of universities' role in teacher training could bring considerable demerits, and would caution against it" (p.32 para 78).

(3) Establish a school-led training route. School-led training through employment-based routes and SCITTs has been around in one form or another on a small scale for over 20 years, with the intention of offering flexibility to schools to attract a more diverse range of potential applicants. The School Direct route was intended from the outset to be scalable and financially sustainable; it involves a school recruiting a prospective teacher and entering into an agreement with an ITT provider to train them (through either QTS-only or PGCE pathway) with a view to subsequently employing them. This is a demand-led supply model, and the job at the end of the training was marketed as a significant attraction for potential applicants, but the impracticality of such a plan was clear from the outset and the employment requirement was soon quietly relaxed. The initiative was also meant to be spear-headed by the new network of teaching schools, but in the first couple of years fewer than half the places were allocated to teaching school alliances (McNamara et al., 2014, p.200). Initially 500 training places were allocated in 2012/13, and significantly fewer were filled. However, demand increased exponentially, and in 2013/14 the uptake had increased ten-fold, and a School Direct Salaried pathway was launched to replace the more expensive Graduate Teacher Programme. School Direct was slower to gain traction in the primary sector, but by 2015/16 it accounted for a third of primary training places, this primarily impacted on postgraduate training sector where nearly a half of all primary postgraduate places were School Direct. As noted in Chapter 1, the changes impacted relatively little on primary undergraduate training, although its overall proportion of the primary training sector did reduce slightly again, to 30%, during this period (see Chapter 3 for more detail).

The reasoning behind the government's drive to establish a wide-scale school-led model pivoted on the claim – made in *Training our Next Generation of Outstanding Teachers* (DfE, 2011a, p.13) and repeated in *Educational Excellence Everywhere* (DfE, 2016a, p.29) – that, "Where teachers have had extensive initial training in schools, they perform better". Two of the sources cited were 'Menter (2010)' and 'Musset et al (2010)'. No further bibliographic detail was given, but an educated guess at the authors/publications can be made. Menter (2016) claims in the Times Higher Education Supplement that, not only did he not single-author any such publication in 2010, but the evidence from reviews on the subject would not support such a conclusion. The likely source for 'Musset et al (2010)' is Musset (2000), a working paper written for the OECD-Mexico Co-operative Agreement aimed at improving the quality of education in Mexican schools. The executive summary indeed recommends that, in Mexico, where school-based practice "is short and disconnected from the coursework" that "Initial teacher education should include in a bigger extend practical field experience" (p.10). Further, the author claims, "Research puts into evidence the positive impacts of reinforcing complementarity between field experience and academic studies. This is why it shouldn't take over completely on the theoretical part of teacher education, fundamental to obtain high-quality teachers. Countries should establish shared responsibility between teacher education institutes and schools in the training of teachers, in order to fill the theory-practice gap" (p.46). This is a conclusion that would not have pleased the Secretary of State, had he read on. Aversion to education theory contributed to a bizarre tirade in the Mail on Sunday, discussed

below, in which Gove (2013) denounced academics employed in university departments of education as "Enemies of Promise" … drawing "gifted young teachers away from their vocation and instead directed them towards ideologically driven theory…". This is a dogma remarkably similar to that of the government source reported in the Daily Telegraph by Patton (2012), who further linked such alleged transgressions to a government strategy to "slash the number of students on university based courses over the next three years" (see above).

It seems clear that the drive towards school-led ITT was principally ideological as opposed to evidence driven. Trainees already spend two-thirds of their time in school and, further, the prevailing ITT partnership model was reported to be highly effective by Ofsted (2011). Reviewing the work of "all providers in the sector inspected between September 2008 and August 2011" they reported, "There is more outstanding provision in primary and secondary partnerships led by higher education institutions than in school-centred partnerships or employment-based routes. Around 80% of trainees follow training programmes offered by a higher education institution" (p.74). The highly questionable assumption that more time spent in school (in excess of the two-thirds of training already school-based) will inevitably – and unproblematically – lead to better and 'more relevant' professional learning, will be considered again in Chapter 4, where the argument will be made that the main focus of many schools is about acquiring 'local' curriculum knowledge and pedagogical skills (McNamara and Murray, 2013). This in some cases, we argue, may lead to a 'branded professionalism' (Whitty, 2014), which is less effective in preparing teachers for a lifelong career in which they are adaptable to future changes and varied contexts.

England is in a period of a rapid deregulation of school governance, the curriculum and teacher certification. The school system has been freed from local control and accountability and "is set to become increasingly disparate and fragmented in terms of curriculum and pedagogic practices, and it is clear that there is a considerable need for both pre-service and in-service teachers to be more versatile in terms of their skill set, knowledge base and pedagogic practices" (McNamara et al., 2014, p.193). As Musset (2010, p.46) agues, flexibility and transferability can be achieved by "reinforcing complementarity between field experience and academic studies… in order to fill the theory-practice gap". Maguire (2014, p.777) notes that debate about the theory-practice divide in teacher training has been ongoing for well over 200 years. Indeed, the University of Manchester archives document the opening of a demonstration school at the end of the 19th century, specifically "designed for trainee teachers to allow them to engage critically with the theories they had learnt in the lecture rooms through practical experience of teaching children". Murray and Passy (2014, p.493) argue, "The current emphasis on preparing teachers to be 'classroom-ready' certainly offers a more practical and relevant training [but] cannot and does not include deep understanding of primary schooling… and offers limited foundations to encourage a long-term career in teaching". Brown et al., (2016a, p.7) in their report on the implementation of School Direct, claim "The push to a greater emphasis upon school-based practice and knowledge is also reconfiguring how trainee teachers experience and understand practice-based pedagogical knowledge, or put more simply the relationship between theory and practice…. many re-conceptualisations of teacher education have privileged practical components to the detriment of theory and analysis".

(4) Prescribe the core skills for ITT. In April 2014, the government commissioned an 'independent' review and report on the core elements of ITT skills and knowledge necessary for outstanding teachers. Led by the (now) Sir Andrew Carter, head teacher and leader of a teaching school and SCITT, the review (DfE, 2015a) made 18 recommendations, which in summary were:

- A framework of core content for ITT, with particular emphasis on subject knowledge and pedagogy, managing behaviour, assessment and special educational needs and disabilities (SEND), should be developed (R1-2);
- Schools should include subject knowledge as the core element of CPD, with DfE funded in-service courses available for primary teachers (R3-4);
- Teachers' Standards should be amended to specify an evidence-based approach. Central portals of executive summaries of research findings about effective teaching and learning across subject and phase should be developed, together with a repository of resources and guidance on assessment (R6 -9);
- Assessed placements should be undertaken where possible in special schools (R10);
- Providers should ensure trainees experience effective mentoring, and a set of national mentor standards should be developed (R11-12);
- All schools should be involved in ITT partnerships (R13);
- DfE should review ITT qualifications, the effectiveness of the skills tests and the marketing and information available to applicants (R14-18).

As we discuss more fully in Chapter 4, for a report on the core ITT skills and knowledge, there is surprisingly little mention about phase-specific imperatives and, in particular, the subject demands of initial training of generalist primary teachers. There is also little acknowledgement of the long-standing specialist/generalist debate, such as that set out in the Alexander (2010) recommendations for greater support for existing 'generalist with specialist', 'specialist' or 'combined domain specialist' primary training courses. In terms of core skills, Alexander (2010) also recommended that ITT should give much greater attention to: (i) pedagogy; (ii) recent research on the social, emotional and developmental context of and strategies for learning, teaching and assessment; (iii) developing expertise in all aspects of the curriculum to be taught; and (iv) understanding of the wider discourse of curriculum, knowledge and skill.

The Carter Review's (DfE, 2015a) recommendations relating to research and evidence-based approaches are also discussed in more detail in Chapter 4, but here we note that Golding (2015, p.122) identifies a welcome "problematizing of teachers' relationship with research". Further, she argues, "that there is at present complementary expertise between HE [higher education] and schools that should be recognized and built on, and in particular that the role of theoretical and deeply research-informed expertise should be fully recognized". This approach is also supported by best international policy and practice. Tatto (2013, p.4) reports findings from an international study of 750 primary and secondary mathematics programmes and 22,000 future teachers across 17 countries, in which "higher achieving countries do rely on university-based teacher education to produce high quality graduates", and one significant feature of them is "a research-informed curriculum for programmes and teacher educators, high selectivity criteria, and strong quality assurance mechanisms". A year-long enquiry on

research and teacher education (BERA-RSA, 2014) also concluded that the UK needed to develop a "self-improving education system" in which all teachers were research literate and engaged in and with research and enquiry. It also called on DfE to disrupt the "false dichotomy" between HEI-led and school-led approaches to ITT.

Responding to the Carter Review, the government established several expert groups, four of which have so far reported (July 2016) to the Secretary of State (DfE, 2016e): *A Framework of Core Content for ITT* (DfE, 2016f); *Behaviour Management Content for ITT* (DfE, 2016g); *National standards for school-based ITT mentors* (DfE, 2016h). Published in July 2016, the ITT core content will be discussed further in Chapter 4, and the national standards for mentoring later in this chapter.

(5) Replace QTS with a new stronger accreditation. Changes in professional accreditation were also proposed in the 2016 White Paper. Details are yet to emerge, although on the surface a two-phase QTS process (provisional award and award confirmation) appears little different from the current arrangements of the award of QTS followed by a three-term statutory induction period for all newly qualified teachers employed in maintained schools; the latter assessed by an appropriate body (normally a teaching school or the local authority). The proposed new arrangements for QTS take on a more troubling status, however, when linked with sentiments to be found in the Carter Review: "We would like applicants to understand that QTS is the essential component of ITT and that a PGCE is an optional academic qualification" (R14). It is worth questioning whose interests are being served here. With the applicants in mind, the statement might more usefully have been, "We would like the applicants to understand that QTS, although it certificates them to teach in England and Wales, is not accepted internationally, or even recognised in Scotland. For this they will need an academic award".

Beauchamp et al. (2013, p.9), reporting on policy and practice across the UK, note that their review revealed, "that policy in England appears to be diverging from that elsewhere in the UK". Internationally, Murray and Passy (2014, p.504) point to the "'gold standard' five-year Masters-level ITE courses offered to both primary and secondary trainees in Finland (Sahlberg, 2011) and giving all the time to participate in both high-level academic study and structured episodes of 'research-informed clinical practice' (BERA-RSA, 2014)", and note also the "steady growth of state investment in Master's level courses for teachers in other parts of Europe, notably Germany, Ireland, Norway and Portugal".

The split between academic (PGCE) and professional (QTS) qualifications was introduced nearly 20 years ago, but the stand-alone QTS qualification is becoming increasingly popular as a cheaper, less demanding option, particularly for school-led routes, than the PGCE (with QTS). (PGCE qualifications generally carry 60 master's credits, see also Chapter 3 for an explanation of the difference between the professional and the postgraduate certificates of education.) It must also be noted that, as mentioned earlier, currently two-thirds of England's secondary schools and one-fifth of primary schools (the academies and free schools) are not required to employ trained teachers. Indeed, evidence presented in Chapter 3 indicates that in the primary sector this is beginning to happen: free schools are 4.5 times more likely to employ teachers without QTS and sponsor academy schools nearly twice as likely.

Alexander *et al* (2010) recommended a two-year ITT model (albeit specifically academic), claiming that whilst primary ITT was still principally focused on providing the generalist class teachers demanded by schools, a one-year PGCE was not fit for purpose. The arguments for an academic training at PGCE masters level are also set out by Nunn (2016) in a think piece for UCET. Briefly summarised, they include value to:

- the individual teacher, of having an internationally recognised qualification offering mobility to teach in all parts of the UK and beyond;
- the system, of having ITT courses subject to the full rigour of the UK academic community and respected by international colleagues;
- the teaching profession, of being qualified at M level, equipped with not only practical skills but also intellectual capabilities including excellent subject knowledge, criticality and research skills and literacy, and the aspiration to embark on a coherent programme of lifelong professional learning;
- schools, of having teachers trained to the highest standard on an academic programme, within a diverse critical community of other professionals equipped to teach across different contexts, and with the vision and capability to improve and develop schools for the future.

The bifurcation of PGCE and QTS mirrors the 'false-dichotomy' between university-led and school-led training and the unhelpful gap between theory and practice. A QTS-only award, which is based strictly on a 'what works here' craft apprenticeship approach to training, and privileges performativity and local practical knowledge, disregards what the university can offer to support critical reflection and theoretical, pedagogical and subject knowledge. (McNamara and Murray, 2013). Brundrett (2015, p.57) reflects on the fact that since 2010 the Coalition (Conservative and Liberal-Democrat) Government "has further marginalized the role of universities and academic researchers in education in schools in a way that would be almost unthinkable in most other advanced nations". There have been various implications of the shift to a school-led system for the teacher educator workforce – not least for those employed in university education departments, which we will consider in the next section.

2.3 - Partnerships in ITT: shifting sands

The concept of 'partnership' had been central to the organisation of ITT since government legislation in 1984 set up the initial requirements for schools and HEIs to work more closely together. As outlined in the previous review and rehearsed in Section 1.2, further legislation in the early 1990s required that all pre-service programmes must be planned, taught and assessed 'in partnership' between schools and HEIs. By 2000 there was a continuum of partnership models, from those led by an HEI (but in partnership with schools) to those in which schools took a more prominent role (Furlong et al., 2006). There were some entirely school-led schemes – under the SCITT route – but in general, the principle of partnership between universities and schools was widely seen as one of the hegemonic discourses of ITT (Furlong et al., 2000).

As the school-led ITT movement gathered pace and momentum from 2010 onwards, notably through the School Direct scheme as described above, it became clear that the balance of

power between schools and universities had been fundamentally altered (Gilroy, 2014; McNamara and Murray, 2013). For many schools these power shifts brought more confidence in participating in ITT, and in 'bargaining' with university providers as ITT became more 'market-led' (Whitty, 2014). As Brown et al. (2016a, p.19) note, the rise of school-led training has altered the relationships between schools and universities through these changing partnership arrangements. These alterations take many forms – some are recorded and in the public domain, but many are un-researched and remain hidden in the detailed, micro-level changes in the partnership relations and interactions between the partners. Where the changes *are* recorded, there is often little differentiation made between the effects on primary or secondary partnerships.

It is now becoming clear that more schools, particularly those running SCITTs or School Direct Salaried schemes, no longer feel the necessity to form partnerships with universities, instead taking on responsibility for organising all aspects of their ITT courses or working with other providers outside the higher education sector (Smithers and Coughlan, 2015). Other schools, particularly those in strong teaching school alliances, remain in some form of partnership with universities, but take on extended responsibilities in organising aspects of ITT programmes, including the selection and recruitment of trainees, the design, implementation and evaluation of course components, and the assessments at the end of the training process (DfE, 2015a). Some schools have also taken on more explicit responsibility for delivering the teaching previously undertaken in HEIs. This move, in particular, has brought about shifting roles for those teaching the teachers (see Section 2.4).

The exact models of school engagement vary from partnership to partnership, according to the National College of Teaching and Leadership (NCTL) guidance, depending on the agreement negotiated between the partners regarding how, or if, the school wishes to have a greater role in the pre-service programme (NCTL, 2015a). Where schools do take on a greater share of responsibility for ITT programmes, there are several benefits as well as tensions and challenges recorded. As noted above, benefits include: the general opportunities to take more active roles in ITT (Gu et al., 2015; NCTL, 2015a); the increased sense of ownership of the selection and recruitment processes (Gu et al., ibid; NCTL, 2015a; Nightingale, 2014); the advantages for the school of having trainees present from the start of the year and for longer periods of time (NCTL, 2015b; Nightingale, ibid); and the benefits of mentoring as a form of continuous professional development (Nightingale, ibid).

From the perspectives of school leaders, Nightingale (2014) records the tensions and challenges as including: the amount of administration involved in ITT; the marketing and advertising work involved in attracting good quality candidates; trainees' common misconceptions about the School Direct route, particularly the assumption of a guaranteed job in the school at the end of the training process; the need for clear agreements and communications across the partnership; 'tricky' negotiations with HEIs in deciding on funding and responsibilities; and the need to 'shop around' when deciding which provider is best for the school. From HEI perspectives, Brown et al. (2016b) and Murray et al. (in press) identify challenges including: differing perspectives from schools and HEIs on selection and recruitment of trainees; the subsequent emergence of new, negotiated forms of shared recruitment practices; new demands from schools for revisions to be made to the ITT curricula

and assessment modes offered in the university; and the re-negotiation of assessment procedures at the end of the practicum. University providers also faced the increased costs of marketing, recruitment, planning and implementation for more differentiated training routes (Universities UK, 2014.) An enduring tension across the whole system is that whilst the degree of school involvement and power in the 'delivery' of ITT has risen overall, accountability remains with the university (or alternative 'provider') through Ofsted inspections and the implementation of other quality assurance procedures (Brown et al., 2016b).

But perhaps the most significant tension is the issue of capacity across the system for schools and their staff to engage fully and consistently with the shift to school-led ITT (Gu et al., 2015, p.111). In a study of teachers' views of school-led ITT (Hodgson, 2014), less than 20% of the sample group felt that schools were equipped to develop trainees' pedagogical subject knowledge. Similarly, a report from the Council for Subject Associations in 2013 (quoted in White et al., 2015, p. 448) expressed concern about the capacity of mentors to take on extended responsibilities for subject knowledge development, without additional resources or training for their roles. Brown et al.'s (2016a, p.22) study also expresses concerns about subject knowledge development in the new forms of ITT, with some views that teachers in schools have "more context specific and shallower subject pedagogical knowledge".

From both schools and university stakeholders, there is clear evidence of the ways in which schools gain from partnerships with universities and vice versa. Gu et al. (2015), as noted above, report that many teaching schools appreciate the opportunities to work in partnerships with universities in delivering high quality ITT. Gu et al. (ibid) and Nightingale (2014) record school leaders seeing the benefits of being closely involved in recruitment, having trainees working with them from the beginning of the year, and reaping the benefits of mentors' work as a form of professional development.

The NCTL guidance for schools on participating in School Direct and other ITT routes generally includes 'the provider' as part of the teacher training partnership (NCTL, 2015a, b, c). So, for example, NCTL (2015b, p.1) defines School Direct schemes as being "run by a partnership between a lead school, other schools and an accredited teacher training provider". This meaning of the term 'partnership' is also found in the Carter Review (DfE, 2015a, p.12), which emphasises the importance of

> genuine partnerships, where schools play a leading role in the recruitment and selection of trainees, course design and delivery, assessment of trainees and the on-going review of the programmes.

The recommendation then continues by emphasising the benefits that 'all partners' (schools and universities) can derive from such partnerships. The text stresses the need to include a range of schools, as well as a university partner, and for schools to "participate in robust local partnership arrangements". Recommendation 13 concludes by stressing that "(I)n a school-led system, this recommendation is naturally the responsibility of schools" (DfE, 2015a, p.12).

In other parts of NCTL guidance, however, there is a sense of the term 'partnership' being redefined. For example, the term does not always explicitly define 'the provider' – whether a

university or not – as having a central involvement in 'training partnerships' (see, for example, NCTL, 2015b where 'partner schools' and their roles are distinguished from the ITT provider). The most extreme example of this subtle re-defining of the term 'partnership' can be seen in Nightingale's article 'School Direct: an insight from school leaders'. Here the words 'partnership' or 'partner' are used 11 times, but usually to refer only to partnerships between schools. Most of the 'partnerships' discussed are clearly school alliances around a 'hub' (lead school for ITT) as in the following: "(S)chools work in partnerships, spearheaded by a lead school or 'hub'" (Nightingale, 2014, p.12). The 'university/ITT provider' is mentioned only in the penultimate section on page 11, and implicitly positioned 'outside' the school partnerships referred to earlier.

The section of the 2016 White Paper (DfE, 2016a) on ITT is an interesting hybrid. It acknowledges the importance of 'high quality' universities "with a strong track record in attracting well-qualified graduates" as ITT providers. Overall the document emphasises the growth of school-led ITT schemes, uses the language of 'provider' rather than 'partner' in relation to all university involvement, and gives only one case study of provision – of a SCITT which has developed from a previous school-university model to become a 'provider' of ITT in its own right.

These are small, but we would argue highly significant examples of the economic language of the market becoming more widespread and influential, and the term 'partnership' being redefined to denote collaboration across and between schools in providing ITT with or without a 'university/ITT provider'. In such redefinitions, the university is no longer automatically part of 'the partnership' that determines learning, at the heart of the trainee learning process; rather it is pushed into the more instrumental role of 'the provider', and sometimes positioned outside the school partnerships. Despite the clear urging in the Carter Review (DfE, 2015a) and the Education Committee, for partnerships between schools and universities to continue as a key model for high quality provision, it is unclear at the time of writing how, and if, such continuation will occur in the primary ITT sector.

Overall, there is no doubt that more schools became involved in leading ITT programmes, either without any university involvement or with reduced levels of support from university partners/providers between 2010 and 2016. The move to school-led ITT has shifted the power balances within even well-established ITT partnerships, enabling schools to have a much stronger voice in areas such as the university curriculum and assessment modes. Some schools have also taken on more explicit responsibility for delivering the teaching previously undertaken in HEIs. Existing ITT partnerships between schools and universities have clearly changed significantly, but there is little evidence about how this has affected primary ITT specifically. As has been indicated earlier in this chapter, the School Direct route was initially slower to gain traction in primary schools than in secondary, and overall in 2015/16 accounted for 32% of all primary places (amounting to over 50% of postgraduate training places).

2.4 - Who is teaching on primary ITT programmes?

Increasing emphases on the generation of school-led routes, and new and often different modes of 'partnership', as outlined above, have had significant, long-term implications for

teacher educators as an occupational group. It is necessary to state at this point that this is an emerging area of research and the number of studies is therefore limited. Furthermore, the available studies make few distinctions between teacher educators working on primary or secondary programmes. It seems likely, however, that, with some acknowledged differentiations, many of the changes have had broadly similar impact on those teaching the teachers in all age phases.

HEI-based teacher educators

Until 2010, those 'teaching the teachers' on ITT programmes could be defined, in the main, as those employed by universities on full- or part-time contracts (McNamara and Murray, 2013). The fragmentation and increasing marketisation of the field has meant that these HEI-based teacher educators, as an occupational group, have faced significant job losses, derogation of their traditional expertise, and new work patterns and changes to professional knowledge bases and identities. Brown et al. (2016a) and Murray et al., (in press) argue that teacher educators and their work have become changed and increasingly under-valued across the teacher education system.

As detailed above and in Chapter 3, the prioritisation of placements for the School Direct route, and the subsequent allocation system for ITT places, has resulted in reduced provision overall in University Schools of Education. In 2012/13, for example, some secondary providers rated 'good' by Ofsted lost most or all of their core secondary places (UCET, 2013, p.2), leading to course closures or, in four cases, to universities withdrawing from ITT altogether (Gilroy, 2014). By 2016 this number had risen to five (NAO, 2016). Many experienced, secondary teacher educators were therefore lost to redundancy or enforced retirement (Million+ Group, 2015). Changes in the number of teacher educators teaching on secondary courses are important to consider here, as subject specific primary courses may well be taught by, or in co-ordination with, secondary specialists. If this subject expertise is lost, then the effects are keenly felt on primary provision. And clearly these losses also impact on the capacity, general strength and organisational structures of the affected departments of education across age phases. The overall capacity of the whole university-based system is then weakened, impacting the overall quality of all teacher education provision and the university sector's research capacity in education. Specifically, in primary ITT, late notification of recruitment targets for the PGCE – or last minute revisions of them – in 2013 and 2014 led to a similar, if less extensive, pattern of primary staff losses to those seen in secondary. Across both age phases, the uncertainty around future recruitment targets led some universities to recruit new staff on short-term and temporary contracts (UCU, 2016). Brown et al. (2016a) comment that changes to work patterns and roles led to widespread disillusionment, driving many older teacher educators to consider retirement as a viable option.

Recent studies (Brown et al., 2016a; Murray et al., in press) indicate that at least some of the remaining HEI-based teacher educators have experienced considerable changes in their institutional cultures, work patterns and attitudes to work since 2010. Like all in the sector, prior to this date, they had already learned to live with an instrumental language in which teacher education became 'training', offered by 'providers' to student teachers who are 'trainees', and taught by teacher educators who are deemed to be 'trainers', 'delivering' sometimes narrow, skills-based programmes. The implementation of School Direct, however,

brought other changes, with new roles and forms of professional knowledge emerging in response to the growing 'market' in ITT.

Brown et al.'s study (2016a, p.7) found that HEI-based teacher educators have experienced major changes in their professional roles and responsibilities. In particular, ways of understanding subject identities and subject knowledge, ways of participating in research and teacher education work, and perceptions of the importance of school experience have all shifted (Brown et al., 2016a; 2014). University recruitment patterns have continued to favour new teacher educators with recent or extensive school experience (Ellis et al., 2014), as they have since a requirement for teacher educators to have 'recent and relevant' experience was first proposed in 1984. It has long been known that some new entrants to teacher education continue to define their identities as school teachers long after joining the university sector (Murray, 2002; 2014). Brown et al. (2016b, p.505) see this trend continuing, with new entrants more likely to define their "practice with reference to their own expertise in schools, rather than ... the more traditional academic capabilities mentioned in their job descriptions". Their study also notes that experienced teacher educators are adjusting to changing work conditions and roles but "can feel displaced". All these teacher educators are "now less able to compete with school-based teacher educators in meeting the demands of immediate practice" (p.7). The compound effects of these factors on the field are to shore up "the new operationally orientated priorities in the discourse of the university" (Brown et al., ibid., p.505).

Struggles around research engagement continued to be a powerful signifier of credibility and value in studies of teacher educators' work and identities (see, for example, Ellis et al., 2014; Murray, 2014; Brown et al., 2014). University demands for research performativity, particularly leading up to the Research Excellence Framework (REF) of 2014, were manifested in increasingly differentiated forms of research engagement by teacher educators. These demands often co-existed uneasily with the increasing emphasis on practice and the development of school-led ITT. There were also tensions between the modes of research required for participation in national research audits, and the traditions of scholarship and practitioner engagement in small-scale research in teacher education (Menter et al., 2010).

There are, of course, long – and unresolved – contestations about the relationships between teacher educators' work and research engagement (Dent, 1977). But the divergent pressures of the "turn to the practical" (Hoyle quoted in Furlong and Lawn, 2011, p.8), the intensification caused by school-led ITT routes, and increasing imperatives for research performativity seem to be producing further change in teacher educators' identities. One of the consequences of these pressures has been an increase in the number of teacher educators placed on teaching-only contracts if they are not termed to be 'research-active' in ways which meet the criteria of the national research audits (UCET, 2014).

Murray et al.'s study (in press) also identified that School Direct had brought about several changes including: teacher educators' engagement in 'selling' their courses to schools; the marginalisation of teacher educator experience in recruitment; revised forms of curriculum and assessment practices emerging to accommodate school requirements; and extended forms of guidance for developing ITT pedagogies by HEI-based teacher educators coming into use. HEI-based educators were commonly negotiating new structures and content in the

programmes they were offering to schools; these included revised curricula and revised assessment procedures. They were also taking on marketing work with schools, to 'win' contracts for training, engaging in widespread consultancy roles in schools, and systematically 'transferring' their knowledge of how ITT works to their school partners.

Compounding this reshaping of professional identities were the attacks on teacher educators coming from policy-makers, the media and stakeholders within other sectors of education in the years when Michael Gove was the Secretary of State for Education (2010–2013). These attacks have been many, but, as noted above, they reached their zenith – or their nadir, depending on viewpoint – in a newspaper article written by Gove in 2013 in response to a letter authored by 100 education academics protesting against the proposed new National Curriculum for schools. The letter's authors and – by implication all education academics and teacher educators "who have helped run the university departments of education responsible for developing curricula and teacher training courses" (Gove, 2013, p.1) – were stated in the article to be 'Enemies of Promise' and inhabitants of a 'Red Planet'. They were:

> a set of politically motivated individuals who have been actively trying to prevent millions of our poorest children getting the education they need, who might be expected to value learning, revere knowledge and dedicate themselves to fighting ignorance. Sadly, they seem more interested in valuing Marxism, revering jargon and fighting excellence (Gove, ibid, p.1).

In the article, education academics were also positioned as part of:

> the Blob – the network of educational gurus in and around our universities who praised each others' research, sat on committees that drafted politically correct curricula, drew gifted young teachers away from their vocation and instead directed them towards ideologically driven theory (Gove, ibid, p.1).

This, and other similar examples, show HEI-based teacher educators positioned within some current policy discourses as 'enemies of promise', opposing current educational reforms designed to improve the teacher education and school systems, facilitate better educational outcomes for children in English schools and contribute to the public good (Gove, 2012a,). These attacks then publicly (re)positioned teacher educators as not just professionally incompetent and mis-guided, but as enemies of social justice behaving in irrational, ideologically led and destructive opposition to the educational changes proposed by the government.

School-based teacher educators and mentors

The School Direct and SCITT routes have brought a cohort of school-based teacher educators into teacher education (Boyd and Tibke, 2012; Czerniawski et al., in press; White, 2014; White et al., 2015). These school-based teacher educators now often take responsibility for organising all aspects of ITT courses, including the recruitment of trainees, the design, implementation and evaluation of course components, and the assessments at the end of the training process (White et al., 2015; Czerniawski et al., in press). Most of these educators also mentor trainees within the school workplace or oversee the work of mentors. Depending on the type of

training route and partnership scheme operating in their schools, some school-based educators work with HEIs and alongside the traditional cohort of HEI-based teacher educators, others work independently.

In White et al. (2015, pp.446-447) the sample group of teacher educators, working on School Direct routes, also "facilitate sessions on pre-service training programmes", including leading subject knowledge development days in school, running seminar groups and training sessions, and offering one-to-one support. Conducting "research into aspects of education" is a further characteristic of this group of educators. White (2014) suggests that they are therefore working in ways very close to those of HEI-based teacher educators. The authors also note, however, that these school-based educators may be "averse to adopting the term 'teacher educator'".

The evidence about these new definitions and the accompanying changes in the roles and work of both school-based and HEI-based teacher educators are, as yet, limited. It may well be that some primary schools, if they have small staffing bases and restricted non-contact time for staff, have limited capability to support the extended learning of trainees. There are some emerging examples of new practices in primary ITT being 'grown-on' or 'extended' from previous ways of working in the diversifying contexts of ITT in England (White et al., 2015; Murray et al., in press), but this literature is also only very small at present. Despite the importance of acknowledging these emerging school-based teacher educator roles, the majority of the guidance and day-to-day supervision of workplace learning of trainees is given by teachers operating as mentors. In a significant number of primary schools, particularly small ones, it is still usually the class teacher who takes on this role, often becoming the most influential role model or guide for the trainee.

As indicated above, there has long been concern about the quality and consistency of mentoring provision across the teacher education system (Hobson and Malderez, 2013). The House of Commons Select Committee report on teacher education (Children, Schools and Families Committee, 2010) raised concerns about the continued inconsistency in the quality of mentoring and thus learner experiences, despite many years of partnership legislation. These concerns remained largely unaddressed between 2010 and 2015, despite the self-evident truth that the quality of mentoring becomes of even higher importance in school-led ITT provision.

It was therefore no surprise to find the Carter Review (DfE, 2015a) reiterating this theme and drawing on the large body of evidence submitted to it, to identify considerable variability in the roles and practices undertaken by mentors. This variability seemed to be attributed in the report to how the particular school-university partnerships or school providers made key decisions around mentoring, including selecting and supporting mentors. The review gave a generic definition of mentors as excellent teachers and subject experts skilled in explaining, as well as demonstrating, outstanding practice. The recommendations of the report stated that "mentoring should have much greater status and recognition, within schools and within the ITT system as a whole" (p.2). It also gave basic guidance on how this might be done and recommended that the DfE commission standards for mentoring.

A year later, the DfE (2016h) published a set of non-statutory standards for mentoring, developed by the Teaching Schools Council and designed "to strengthen the quality of support that trainees receive whilst on school placements and to create consistency within partnerships and across the ITT system in England" (p.8). Four separate, but related, areas of standards were identified for mentors: personal qualities; teaching; professionalism; and self-development and working in partnership. The contents of the guidance (DfE, 2016h, p.10-12) place emphasis on the mentor's responsibility for inducting the student into the school, providing support in key areas (including planning, assessment, behaviour management strategies and using educational research to inform teaching), and being a good role model. In general, there is little emphasis (beyond a brief clause in Standard 1) on developing the necessary pedagogical or andragogical skills and knowledge for working with adult learners as they enter the profession. There is a cursory mention of using "appropriate challenge to encourage the trainee to reflect on their practice" (p.11) in Standard 1, but in general the guidance does little to move beyond traditional models of mentoring as the transmission of an established body of knowledge and skills about teaching from an experienced or 'master' teacher to a neophyte.

2.5 - Summary

The principal effects of the changes outlined above mean that schools have now become the key location for learning and for the legitimation of knowledge in primary ITT; practical knowledge of how to teach, gained through immersion in the workplace, has become dominant. In some school-led routes of ITT, notably Teach First, SCITTs and School Direct Salaried programmes, schools are the locations for the vast majority of trainee learning. On School Direct Unsalaried routes programmes vary between, at one extreme, schools being the location of the vast majority of learning, and at the other, just two-thirds of the time being spent in classrooms 'on practice'; a structure replicating HEI-led PGCE programmes. Neither of these patterns is new: the School Direct Salaried programme is the natural successor to the Graduated Teacher Programme established in the late 1990s (but in earlier guises dating back to the late 1980s, see Chapters 1 and 3) and the PGCE, with the mandated minimum school-based time for primary signalled for increase from 90 days to 120 days in 2012 (DfE, 2012) (bringing it into line with the requirement for secondary ITT). But the issue is not solely about the time spent in schools, nor about the variability and overall quality and consistency of ITT; three other issues are relevant to consider.

First, there is a tendency for trainees on all routes to go into schools earlier in their training, usually at the start of the academic year. This 'early immersion' model is welcomed by many schools, and mirrors European-wide trends for earlier exposure to schools in programmes that are increasingly focused on 'practical training' (European Commission, 2015). However, in the case of European programmes, this change has taken place from a much lower baseline of practical training and alongside a move to also increase academic rigour (McNamara et al., 2014). Amongst the many acclaimed benefits is deeper involvement in the practices of the school (NCTL, 2015a), but this benefit also increases the likelihood of trainees being inducted early into localised, school-specific practices and norms. Trainees' learning becomes centred around the acquisition of local pedagogies and curriculum practices, and a 'what works here' approach to knowledge-generation. This provides an adaptive 'apprenticeship' model of

training, rather than an intellectual and developmental model that would prepare trainees for a career in which they will encounter significant change both over time and between different school contexts.

Second, constructions of how and at what pace trainees learn to become teachers may also be altered by such immersion models. In accepted formulations of the conventional teaching practice, schools are positioned as sites for the development of broad and in-depth trainee learning, as well as for the demonstration of practical competences. The concept of legitimate peripheral participation (Lave and Wenger, 1991; Wenger, 1998) has been deployed to position student teachers as initially operating on the periphery of the classroom, only gradually inducted into the full practices of the school as a community of practice. School-led ITT, particularly the School Direct Salaried route, increases the pressure on trainees to become fully active participants more quickly; in other words, trainees spend more time in 'practice mode' than in 'prepare and reflect mode' (McNamara et al., 2014). Importantly, active participation often occurs before trainees develop the criticality and reflective skills to situate local experiences in a wider context. This becomes of even greater concern where the trainee is on a QTS-only route that situates teaching as a craft and training as a master/apprentice relationship, rather than an integrated model that also aims to develop intellectual capabilities, criticality and research skills and literacy.

Third, as outlined above, there has been an expansion of the traditional HEI-based occupational group to include school-based teacher educators taking on extended teaching, leadership and organisational roles within school-led ITT schemes. In some schools, trainees may be taught formally and exclusively by school-based teacher educators, although there is no evidence on how far this change is happening, particularly across the primary sector and in schools still in partnership with HEIs. However, in all schools that have taken on more extensive roles in ITT, mentoring work is likely to have gained higher profile. Whether or not this new professional profile reflects an improvement in the quality and quantity of mentoring practices, it raises trainee expectations and sense of entitlement for school-based learning. In small and rural primary schools especially, these things bring with them significant challenges, not least the provision of a professional support network for trainees and continuing support and training for mentors. Yet the importance of mentors and high quality mentoring – a repeated theme in previous analyses of teacher education (see, for example, the Children, Schools and Families Committee report, 2010; Hobson and Malderez, 2013) – has received yet more emphasis in recent government publications (DfE, 2015a; DfE 2016a).

There seems little doubt that the developments in primary teacher education since 2010 have redefined the work, roles and identities of those teaching the teachers, whether in universities or in schools. Since it is widely accepted that "what student teachers learn during their initial training is as much influenced by *who* (our italics) is responsible for teaching them as it is by the content of the curriculum" (Furlong et al., 2000, p.36), these changes have profound implications for the preparation of primary school teachers. As Brown et al., (2016a, p.7) argue, emerging new models of partnership within ITT are, "impacting on... how the categories 'teacher educator', 'teacher' and 'trainee' are defined. In particular, the function of 'teacher educator' has been split across the university and school sites, displacing traditional notions of what it means to be a 'teacher' and 'teacher educator". We argue that these changes,

alongside shifts in the epistemologies and locations for the majority of primary ITT, brings profound and long-term alterations to the ways in which trainees and their educators conceptualise teacher knowledge and understand the roles of the primary teacher.

3 - THE STRUCTURE AND CHARACTERISTICS OF THE TRAINING AND TRAINEES

3.1 - Primary teacher workforce in England: size and characteristics

In 2015 the schools' workforce in England extended to 503,000 teachers, and a total of 1.4 million including teaching assistants and support staff (958,000 full time equivalents (FTE)). This overall number has gradually increased over the last five years due to steady expansion in the primary workforce, whilst the secondary workforce has continued to contract gradually. The main demographic change underpinning these variations has been the falling birth-rate throughout the 1990s and until 2002, which led to both primary and secondary pupil populations reducing. The turnaround in the primary-aged pupil population occurred in 2010. The School Workforce Census, first introduced in 2010, records that the total number (FTE) of teachers in the maintained nursery and state primary phase rose from 196,400 in 2010 to 220,000 in 2015; a 12% increase. Over the same period, the total number (FTE) of teaching assistants recorded an even greater increase, rising from 136,900 in 2011 (the first time this data was collected) to 174,500 in 2015; a 15% increase. The overall increase in the primary workforce in this period (including auxiliary and other support staff) was 17%, bringing the total workforce to just under 0.5 million (FTE). The actual number of staff employed in the primary sector at any one time is significantly more, however, because of the proportion of staff employed on part-time contracts. In 2015, over 25% of all nursery and primary school teachers worked part-time, as did over 85% of teaching assistants. Most other school support staff also work part-time (DfE, 2016i).

Looking forward, the rising birth-rate in England is projected to continue, and between 2015 and 2024 pupil numbers in maintained nursery and state-funded primary schools will, it is estimated, increase by a further 8%. By comparison, over the same period, state-funded secondary school pupil numbers, which have been declining since 2005, are projected to increase by 20% (DfE, 2016i).

Teacher characteristics of gender and ethnicity in the maintained nursery and state-funded primary sector have remained fairly static over the last few years. In 2015, 84.8% of primary and nursery teachers were women (compared with 62.4% of secondary teachers). The overall percentage of female teachers in the school workforce has increased slightly, from 72.9% to 73.8% in the last five years. In terms of ethnicity, 91% of the primary and nursery teacher workforce is white British/Irish (this rises to 95.4% of heads). The non-white British primary teachers include 2.8% of other white backgrounds and 5.1% of non-white backgrounds. The diversity of the overall primary and secondary school teacher workforce is very slightly greater with White British/Irish at 89% in 2015 (this rises to 95.6% of heads) (DfE, 2016i, j).

The age demographic of the primary and nursery teacher workforce has shifted over the last few years towards the younger age brackets: in 2015, 28.4% (FTE) were aged under 30 (compared to 23.1% of secondary teachers), and only 17.9% (FTE) were aged over 50 (DfE, 2016i, j).

Interesting variations with respect to the qualifications of the teacher workforce have emerged across the different school types, which may in small part be because of the way the numbers are reported. Only 3.1% of (FTE) teachers in maintained nursery and state primary schools do not have QTS (this compares to 5.9% in state secondary schools). However, within the primary sector, the percentage of (FTE) teachers without QTS ranges from 2.8% in maintained primary schools, 3.9% in convertor primary academies, 5.3% in sponsor-led primary academies, to 12.5% in primary free schools (DfE 2016i, 2016j table 3a).

3.2 - Teacher flows into and out of the workforce

Typically, around 10% of the workforce leaves and is replaced every year, and over 50% of the teachers entering or re-entering state-funded schools every year are newly qualified. In 2015, newly qualified teachers accounted for 55% of the 45,810 (FTE) entrants to the profession; 31% of entrants were returners to teaching, and 14% were teachers new to the state school sector (STRB, 2016). As a proportion of the whole teacher workforce, the flow into the sector has increased in recent years, from 9% in 2011 to 10.5% in 2015, in response mainly to increasing pupil numbers (DfE, 2016i).

The total number of (FTE) qualified leavers has also increased over time, from 37,890 in 2011 to 43,070 in 2015. As a percentage of the whole teacher workforce, the leavers' rate has increased from 8.9% in 2011 to 10% in 2015. The number encompasses the categories of 'retirement' and 'out-of-service teacher'; the latter includes teachers taking a break from teaching and those leaving the profession. In the last four years, the number of (FTE) 'retirements' has decreased from 13,330 in 2011 to 8,820 in 2015, and the number (FTE) moving to 'out-of-service teacher' has increased from 24,330 in 2011 to 34,250 in 2015. In this period, the proportion moving to 'out-of-service teacher' has increased from 35% of the total number of leavers to 80% (DfE, 2016i).

3.3 - Routes into teaching

There are currently six main primary training routes, which can be usefully categorised by four characteristics. The first and most fundamental characteristic is whether entry into training is at undergraduate level or graduate level. The second is whether training is nominally HEI-led or school-led; and the third, whether training is employment-based/on-the-job as a salaried teacher, or whether as a fee-paying unsalaried trainee. Fourth, there are significant complexities relating to how the route is certified: individuals following an undergraduate route would be awarded an undergraduate degree (with QTS); those following a graduate route would be awarded either a professional QTS-only award or an academic qualification, which may either be a (masters level) 'Post.GCE with QTS' or an (Honours level) 'Prof.GCE with QTS' (the PGCE qualification was split into these two levels

in 2007, see Chapter 1). All the above routes are likely to have options of full-time or part-time study. Brief details of each route are outlined below.

(1) Undergraduate route: undergraduate, HEi-led, unsalaried, academic qualification (BEd, BSc, BA (all with QTS))

The number of primary teachers trained through the undergraduate route fell fairly rapidly, from just below 60% of the training sector in 1998 to around 40% in 2005; but thereafter remained relatively stable until 2013, when it fell to its current level of around 30%. A number of factors were identified by McNamara et al. (2008) as being linked to this reshaping of primary training. They include the promotion of non-traditional provision throughout the 1990s (although uptake was extremely small); and the publication of the Sutherland Report (1997), which again recommended greater differentiation of training routes and debated the relative effectiveness of the undergraduate route against postgraduate training. Contextual factors were also of significant impact, such as the introduction of the HEI tuition fee in 1998; the teacher supply crisis of 1998-2002 (leading to demand for more training on flexible and faster training routes), and the reactive introduction of the £6,000 training bursaries in 2002 on all postgraduate routes. All these factors had a marked impact on the vulnerability of the four-year undergraduate BEd degree, which for many years had been unassailable as a primary training route. Together they triggered its contraction and the rapid growth of the shortened three-year education degrees (with QTS), which had captured 40% of the undergraduate market in England by 2004/05 (Furlong et al., 2006). For 2017 entry, only five out of around 55 undergraduate primary/early years 'education with QTS' courses on UCAS (Universities and Colleges Admissions Service) website are four years in length (UCAS, 2016a).

(2) HEI postgraduate route: graduate, HEI-led, unsalaried, academic qualification (Prof.GCE or Post.GCE, both with QTS)

The PGCE, initially a training route for the elite secondary and independent school sectors, rapidly expanded after the phased introduction of mandatory training for graduates in the late 1960s and early 1970s. Since then it has gradually increased its proportion of the primary training sector. A minor change occurred in 2007 when, to accord with the Framework for Higher Education Qualifications, the PGCE branched into the M (masters) level 7 (QAA) Postgraduate Certificate of Education and the H (honours undergraduate) level 6 (QAA) Professional Graduate Certificate of Education. Most HEIs chose to offer the former with 60 masters level credits, although some now offer a Post Graduate Diploma with 120 credits (Nunn, 2016). As noted above, the granting of differentiated bursaries mitigated the impact of the introduction and rapid escalation (from £1,000 in 1998 to £9,000 by 2012) of HEI fees, and incentivised applicants with good qualifications and/or offering shortage subjects. The bursaries currently on offer for 2017/18 entry for trainees range from £3,000 (primary generalist with first class honours degree) to £6,000 (primary mathematics specialist with good A levels). To put this in context, secondary training bursaries range from £9,000 (for English, history and religious education trainees with a first class honours degree) to £30,000 for physics trainees with a first class degree, and £25,000 for physics, mathematics, languages, computing and geography trainees with an upper or lower second class degree (NCTL, 2016).

(3) School-centred initial teacher training (SCITT) route: graduate, school-led, unsalaried, academic (Prof.GCE or Post.GCE, both with QTS) or professional qualification (QTS-only)

SCITTs are networks of schools that are accredited by the NCTL to be an ITT provider; that is, they can award QTS or, in collaboration with an HEI provider, an academic qualification (PGCE with QTS). Launched in 1993, the SCITT was one of the first school-centred alternative routes to be established (The Licensed and Articled Teacher Scheme established in 1989 was the first), with a view to widen and diversify the pool of applicants into teaching. SCITT programmes are delivered by consortia of schools and designed to be responsive to local needs (e.g. in geographically isolated areas). The route expanded slowly, such that by 2011/12 there were still only 56 SCITTS registered nationally. By 2015, however, following the launch of School Direct, and encouraged by the government, this rose steeply to 155 and comprises 9% by volume of training places of the overall (primary and secondary) training sector (NAO, 2016).

(4) School Direct (Salaried) route: graduate, school-led, salaried, academic (Prof.GCE or Post.GCE, both with QTS) or professional qualification (QTS-only)
(5) School Direct (Unsalaried) routes: graduate, school-led, unsalaried, academic (Prof.GCE or Post.GCE, both with QTS) or professional qualification (QTS-only)

The School Direct Unsalaried training route was launched in 2012/13, with an uptake of less than 500 places. The initial idea was that schools would, responsive to their staffing needs, recruit prospective teachers with a view to employing them, and enter into an agreement with a training provider to support their training (which could be either QTS-only or PGCE). In autumn 2013, a School Direct Salaried pathway was launched (an employment-based version of School Direct which superseded the Graduate Teacher Programme – see below), and vigorous marketing saw the overall demand increase to such an extent that the uptake increased ten-fold. The 'requirement' to employ School Direct trainees at the end of their training was relaxed, and schools were encouraged to organise into groups with a training provider or within a teaching school alliance. The target was that by 2015 "as many as 10,000 students a year could be trained by schools that are either offering Schools Direct places or are full providers of teacher training" (Gove, 2012a). In the event, in 2015/16 there were 841 School Direct partnerships (NAO, 2016) and the overall training allocation (primary and secondary) was 10,252 (37% of those who embarked on their training). Of these, School Direct Salaried accounted for around 30% of all School Direct places and School Direct Unsalaried 70%. Although School Direct was slower to gain traction in the primary sector, by 2015/16 it accounted for 27% of all primary training places and 39% of all primary postgraduate training (DfE, 2015b).

(6) Teach First Route: graduate, salaried, Teach First-led, academic (Post.GCE)

Teach First, a social enterprise which aims to address educational disadvantage, was launched in the UK in 2003. It recruits able graduates who commit to teaching in challenging schools for a minimum of two years (the first year as an unqualified teacher in training and the second year as a newly qualified teacher), and was modelled on Teach for America, founded in 1989 in the US. Teach First participants, who are employed by a school, commence their training with an intensive six-week programme in the summer prior to employment. The training,

which leads to a PGCE with QTS (at the end of their first year in teaching), continues throughout the first year of employment and is delivered regionally by Teach First in partnership with HEI training providers and schools. Initially based in London and recruiting only secondary participants (80% of whom were in STEM subjects), it began expanding into other regions in 2005 and now operates in nine English regions (and Wales from 2013). Overall numbers increased slowly in the first instance, from 183 in 2003 to 560 in 2010. In 2011 Teach First expanded into primary, and in 2013 into early years, bringing the overall recruitment that year to 1,261. By 2015/16, numbers had risen to 1,685 (76 early years, 415 primary, 1,194 secondary) and the proportion of secondary participants offering STEM subjects had reduced to around 40% (Teach First, 2016). Teach First has its own recruitment and selection processes, and the Teach First allocations – although set by DfE – were not integrated into the sector allocations, Teacher Supply Model and census data until 2015/16.

Specialisms

Across undergraduate routes for 2017 entry, 34 providers offer around 55 primary courses (including early years), of which only a handful overall include subject specialisms of mathematics, English, music and physical education (UCAS, 2016a). Primary courses at postgraduate level offer specialisms in mathematics (66), special educational need (43), science (11), physical education (30), music (1), geography (6), history (6), and information and communication technology and computer science (2) (UCAS, 2016b, 24 October).

Other primary routes

Troops to Teachers is a programme for armed services leavers and leads to an honours undergraduate degree with QTS.

Assessment-only route is for experienced teachers with a degree who can demonstrate they have already meet all of the standards for QTS.

Graduate Teacher Programme was established in 1998 as a (re)launch of the Licensed and Articled Teacher scheme (established 10 year previously). The Graduate Teacher Programme was subsequently repackaged under the umbrella of employment-based initial teacher training (commonly referred to as EBITT). EBITT also encompassed the Overseas Trained Teacher Programme and QTS-only assessment routes, which are still ongoing. The Graduate Teacher Programme ceased to recruit in 2012/13.

3.4 - Trends in targets, allocations and recruitment over time and across routes

As noted in the previous chapter, postgraduate school-led routes have grown vigorously in response to the policy agenda over the last few years. ITT census data for 2015/16 reports that the total number of new primary and secondary postgraduate entrants on school-led routes overall was 14,208 in the academic year 2015/16 (51% of total entrants), compared to 13,561 on HEI-led courses (49% of the total). This was achieving the ambition of Secretary of State Michael Gove (2012a) that "By the end of this parliament well over half of all training places will be delivered by schools". School Direct was the main driver of change. The route was launched in September 2012 with 914 training places allocated, but the uptake was less than

half of that; yet by the academic year 2015/16 new entrants to School Direct routes had increased to 37% of all places. Figure 1 shows the trend towards school-led routes on postgraduate training over the last three years (note: Teach First was not recorded in the census data until 2015/16).
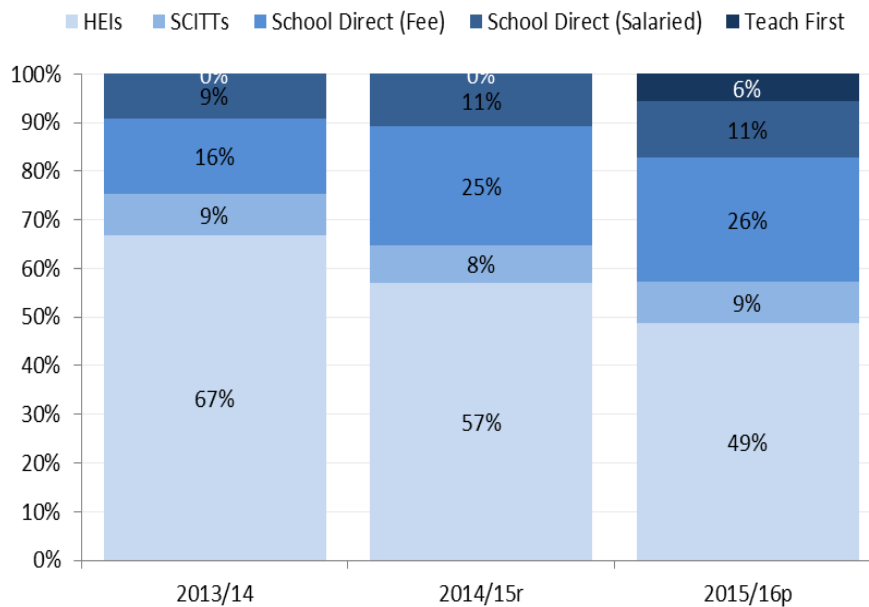

Figure 1: New entrants into teacher training 2013 to 2016 by route of entry.
Source: DfE (2015b, p.1)

Primary undergraduate routes have not been directly challenged by the shift to school-led training, but have nonetheless seen their proportion of the sector reduced in the period following its introduction. As noted earlier, after a long period of stability and dominance in the primary training market, the numbers dropped markedly (by around 20%) between the late 1990s and 2005. The undergraduate share of the sector then remained stable at around 37% until 2013/14, when it dropped again to the all-time low of around 30%. Table 3 shows the most recent data on primary entrants to training, disaggregated by route (including Teach First for the first time). Again School-led training accounts for just over 50% of the postgraduate sector.

	SD(Sal)	SD(unsal)	SCITT	Teach First	HEI-PG	HEI-UG	Total
Number	1,691	3,264	1,102	477	6,243	5,120	17,897
Percent	9%	18%	6%	3%	35%	29%	100%

Table 3: Provisional data on 2015/16 primary entrants.
Source: DfE, 2015c, Table 1a

The annual recruitment targets for postgraduate teacher training are calculated using the DfE Teacher Supply Model (TSM). In 2015/16 the target was 11,245 for primary and 18,451 for secondary subjects. The ITT census shows that, in the event, 13,034 postgraduate trainees were recruited in primary and 15,114 in secondary subjects, giving a total of 28,148. The overall recruitment rate was 94% of the total TSM targets: primary (over) recruited at 116% of target and secondary overall (under) recruited at 82% of target (ranging from 113% of target in

history to 41% in design and technology). Overall 14 out of 17 secondary subjects under recruited (DfE, 2015b, figure 1). The NAO (2016, p.9) noted that the "model's forecasts lie within a big range" and do not "aim to resolve pre-existing teacher shortages" caused by the cumulative under recruitment effect. Neither, it says, does the DfE "confirm independently the accuracy of its latest model" or "have enough information to establish the accuracy of previous models".

Table 4 shows the TSM primary postgraduate recruitment targets against new entrants over the last six years. The primary targets show a peak in 2012/13, and targets were achieved to a reasonable degree of precision until the last two years, which may reflect volatility following a large increase in the uptake of School Direct in the primary sector after a comparatively slow start.

Year	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
New entrants	11,107	12,790	13,874	14,004	12,782	13,034
Target	11,770	13,040	14,421	14,130	14,328	11,245
Contribution	94%	98%	96%	99%	89%	116%

Table 4: New entrants to primary postgraduate programmes from 2010 to 2015 against TSM recruitment targets. Source: DfE, 2015c, Table 1b

In order to achieve the target recruitment, significant 'cushioning' in terms of excess allocation over target is built into the system. Table 5 gives the actual allocations data for 2015/16, disaggregated by route and phase. It shows that in 2015/16, NCSL allocated an additional 33% of places on top of the TSM postgraduate target number in both primary and secondary.

	SD(Sal)	SD(Unsal)	SCITT	HEI-PG	HEI-UG	Total
Secondary	3,067	8,802	2,231	10,409	699	25,208
Primary	2,067	4,775	1,487	6,657	6,163	21,149
Total	5,134	13,577	3,718	17,066	6,862	46,357

Table 5: Final ITT allocations for 2015/2016 academic year, grouped by route and phase. Source: NCTL, 2016, Table A2b

The surplus allocation strategy had very different outcomes in the primary and secondary sectors. In primary, just short of 15,000 postgraduate places were allocated in order to recruit the TSM target of 11,245; in the event, the primary postgraduates were over recruited by 16%. The secondary sector, by comparison, was allocated 24,509 places (although no cap pertains to places for maths and physics) with a view to recruiting 18,451 trainees and, in the event, still under recruited by 18% overall.

The shift to a more school-led system has arguably increased the challenge, both politically and logistically, of calculating the allocation required to recruit to TSM targets. First, it was a political imperative to encourage primary schools to participate in the School Direct programme to meet the aspirational target of 50% school-led training set by the Secretary of State in 2010 (see Chapter 2). Second, it was prudent to safeguard the sustainability of HEI postgraduate programmes at a time of fairly drastic changes in the pattern of allocation, even

if this meant over-inflating allocations. Third, what data there were indicated that school-led routes had lower success rates in relation to recruitment. In 2015/16, for example, HEI-led routes filled 85% of their overall training allocations, while school-led routes filled less than 60% (School Direct filled 58% – 54% of 'salaried' and 70% of 'unsalaried' allocations – whilst SCITTs filled 65%) (NAO, 2016, p.15).

Data indicate that demand for training places, in particular School Direct places, significantly exceed those available. In the last three years, in response to vigorous marketing, the demand for School Direct places across the sector has risen rapidly. Between 2013/14 and 2014/15 the number of places requested nearly doubled (from 9,000 to 18,000). In 2015/16 total primary places requested exceeded those eventually allocated by 43%, as shown in Table 7 (secondary requests exceeded eventual allocation by 27%).

Where the demand for School Direct places exceeds available numbers, the NCTL allocations criteria include: Ofsted inspection grade of the lead school, and number of schools in the training partnership (larger partnerships are prioritised). Recruitment performance and quality of trainees may also be invoked. ITT provider criteria include: Ofsted inspection grade, engagement with the school-led ITT system, and track record of recruitment to priority subjects. Overall denominational balance is also a consideration in allocating ITT provider places (NCTL, 2014a).

The distribution of 2015/16 training places in Table 6 shows that where inspection has taken place, all lead institutions have been deemed good or outstanding; albeit a significant number of places have been allocated to newly accredited providers. Forty-seven per cent of SCITTs (which although school-led are, in Ofsted categorisation, provider-led as the school network is an accredited provider) are yet to be inspected (NAO, 2016).

Ofsted grade of lead institution	School-led	Provider-led	Total
Outstanding	13,091	10,659	23,750
Good	4,450	13,461	17,911
Requires Improvement or Satisfactory	0	0	0
Inadequate	0	0	0
No recorded grade	68	1,787	1,855
	17,609	**25,907**	

**Table 6: Allocations for 2015/16 by Ofsted grade of the lead institution.
Source: DfE, 2014a, Table A5**

It is interesting to note that regional and sub-regional distribution of training places does not explicitly factor in the DfE allocations criteria, which means that where the national training market is not aligned to the local job market, this can lead to both over-supply and shortage of teachers. To add a further complication, there are significant regional variations in projections of pupil numbers going forward. For example, projected increases in primary-aged population between 2012 and 2017 range from 14% in London to 9% in regions such as the North West and North East (STRB, 2016, p.18); two of the three areas identified by Allen et al. (2016b, p.4) as having "large numbers of new qualified teachers who do not join a state-sector school immediately after achieving QTS". The dislocation between training provision

and teacher demand across the country has, in part, resulted from the organic growth of teacher training, from its origins in the late 1800s in specialist, and local authority and denominational colleges. The uneven distribution of ITT providers, and thus training allocations, is arguably not unrelated to the development of teaching schools and the School Direct market, in areas where experience and expertise has built up over decades of involvement in ITT. Although the overall over-subscription of primary training places in 2015/16 was 43%, the requests in relation to allocation varied significantly (from 29% to 64%) across regions, as shown in Table 7.

Region of lead institution	Primary request	Primary allocation	% primary over subscribed	Total primary & secondary allocation	Trainees per 100,000 pupils
East Midlands	2,180	1,544	41%	3,120	362
East of England	2,127	1,500	42%	3,685	294
Greater London	4,830	3,493	38%	7,483	454
North East	1,415	983	44%	1,947	414
North West	5,392	3,576	51%	7,379	547
South East	3,931	3,052	29%	6,942	458
South West	2,547	1,943	31%	3,661	404
West Midlands	2,939	1,983	48%	4,578	426
Yorkshire & Humberside	3,229	1,973	64%	4,506	451
Non-regional	75	25	-	215	
Total	**28,665**	**20,072**	**43%**	**43,516**	

Table 7: Primary allocation of training places against requests and total allocation of training places against pupil density by region in 2015/16. Source: DfE, 2014a, Table A4 and NAO, 2016, Figure 11, p.30

Table 7 also shows that the availability of training places across the regions varies markedly in relation to pupil density (from 294 per 100,000 in the East of England, to 547 in the North West). Probably connected to this, and of interest to note, the North West has the lowest number of teachers likely to be in the profession three months after gaining QTS, and the East of England has the highest, according to a report commission by NCTL from Education Datalab (Allen et al., 2016b).

3.5 - Trainee characteristics

The data in Table 8 show trends in trainee characteristics with respect to gender, ethnicity, age and qualification level, drawn from the Good Teacher Training Guide (Smithers and Coughlan, 2015). It shows a gradual upward trend in the number of male primary trainees, plateauing at around 18% in 2012. The slow rise in the proportion of ethnic minority trainees plateaued in 2006 at around 8% (with wide regional variations), whilst the non-white British population density continued increasing and is now estimated at around 17% in England in 2016 (Datablog, 2016). The non-white British primary school population, meanwhile, has risen

to 31.4%, with wide regional differences from Inner London (82%) to the North East (12%) (DfE, 2016d; Coughlan, 2016). The age profile of primary trainees has shown a gradual upward trend since 2000, partly accounted for by the reduction in the proportion of primary trainees following undergraduate routes.

Characteristic	2000	2003	2006	2009	2012	2013	2015
% PG	44	54	58	57	60	62	73
% male	13	13	13	14	18	18	17
% ethnic	5	6	8	8	9	9	8
% age 25+	37	44	43	38	41	40	41

Table 8: Trend over time primary intake. Source: Good Teacher Training Guide 2015: Chart 3.9 (Smithers and Coughlan, 2015)

Table 9 shows variations in primary trainee characteristics across training routes in 2015/16. As can be seen, School Direct Salaried attracts significantly more men and mature career-changer entrants than the other routes. At the other end of the scale, the HEI undergraduate route draws from a pool of applicants that attracts significantly fewer of both male and mature trainees.

Characteristic	HEI	SCITT	SD (unsal)	SD (sal)
% postgraduate	65.1	94.2	100.0	100.0
% male	14.1	22.0	24.7	27.5
% ethnic minority	7.8	10.2	6.2	8.8
% aged 25+	32.7	57.9	58.3	92.2

Table 9: Primary trainee characteristics (2015/16) by route. Source: Good Teacher Training Guide 2015: Chart 3.8 (Smithers and Coughlan, 2015)

Drilling down into ITT census data for 2015/16 shows that 91% of primary undergraduate trainees are under 25 years of age, and the proportion of male entrants since 2010 has remained fairly static at around 14-15% on the undergraduate route and 22-23% overall on primary postgraduate programmes (DfE, 2015c, Tables 3a and 5). As reflected above, data also shows a far higher proportion (27%) of male trainees on the School Direct Salaried route than the other postgraduate routes (including Teach First primary), which are all between 20% and 22%. On secondary postgraduate programmes, by comparison, the overall proportion of male entrants is 40% and, although individual subjects vary significantly, there is little variation across secondary routes, other than Teach First, which recruited only 32% males (DfE, 2015c, Table 3).

3.6 - Trainee qualifications and outcome data

The entry qualifications of postgraduate trainees rose between 2010 and 2016, with the number of first class degree entrants increasing from 10% to 18%, and upper second class entrants from 53% to 57%. This is against a background where the number of graduates with an upper second class degree or above increased from 64% to over 70%. Table 10 shows the

proportion of primary and secondary trainees with an upper second class degree classification, or better, across training routes.

2i & above	SD(Sal)	SD(Unsal)	SCITT	HEI-PG	Teach First	Total
Primary	67	73	65	76	98	74
Secondary	69	75	74	75	97	76

Table 10: Proportion of new postgraduate entrants holding upper second-class degree or above in 2015/16 by phase and route. Source: DfE, 2015c, Table 2

DfE performance profiles of outcomes overall for primary and secondary trainees shows that 92% were awarded QTS, and 95% of those were in teaching within six months (note: the latter figure is calculated from those newly qualified teachers who returned destination information). For primary postgraduate trainees, the outcomes were 91% and 95%, respectively. Table 11 indicates that there was less than 2% variation in either of these outcomes across postgraduate routes. Significant differences, however, were apparent in undergraduate outcomes, in which only 85% were awarded QTS, and 93% of those were in teaching within six months.

	SD(sal)	SD(unsal)	SCITT	HEI-PG	All PG	HEI-UG
All trainees	2,797	6,291	2,144	15,375	26,067	7,336
Awarded QTS	93%	94%	94%	90%	92%	85%
Teaching in 6 months	97%	96%	95%	94%	95%	93%

Table 11: QTS awarded and employment within 6 months for all (primary and secondary) trainees by route, 2014 to 2015 academic year. Source: DfE, 2016k, p.7

Regional variations are also apparent in the award of QTS (possibly as a result of a local norming of standards) and in the percentage of those in teaching within six months (as noted in Table 7, the latter is probably not unconnected to the availability of training places, and thus competition in the local job market). The figures range from an overall high of 95% and 97% respectively in the East of England, to an overall low of 91% and 93% respectively in the North West. The lowest regional figure for the award of QTS was in Yorkshire and London, both at 90% (DfE, 2016k).

Regarding (secondary and primary) trainee characteristics, at postgraduate level, females were slightly more successful than males, both in terms of being awarded QTS (93% and 88%, respectively) and in terms of teaching within 6 months (95% and 94%, respectively). In relation to age, under 25-year-olds were more successful than those aged over 25 years, both in terms of being awarded QTS (94% and 90%, respectively) and teaching within six months (96% and 94%, respectively). Regarding ethnicity, trainees of white UK backgrounds were more successful than those of non-white ethnic backgrounds, both in terms of being awarded QTS (92% and 86%, respectively) and teaching within six months (96% and 94%, respectively) (DfE 2016k).

Datalab attempted to track the outcomes over time for teachers trained through different routes, and their initial findings have been reported in *Linking ITT and workforce data* (Allen et al., 2016b) which, as noted above, identified robust regional differences in trainee outcomes. Analysis from the nascent data set also compared retention rates. The most current data, from the cohort that commenced training in 2012, show that three years on from beginning training, the retention rates were: Teach First lowest at 43%; HEI-led (undergraduate courses) 58%; HEI-led (full time postgraduate courses) 61%; and SCITT 67%. Disaggregating the data for trainee characteristics shows that early career retention rates drop steadily as the age of the beginning teacher increases, and retention rates are significantly higher for young women and lower for ethnic minority teachers. Retention rates are higher for primary and secondary English teachers. Data are not yet available for the School Direct routes.

3.7 - Costs and benefits across routes

Allen et al. (2016a), in their recent report, attempt to quantify the short-term cost-effectiveness of the various training routes, both to schools and to central government. Unsalaried postgraduate routes, they report, have high central costs (scholarships, bursaries, tuition fee/maintenance loans, NCTL grant), which for some trainees can be up to £40,000. School Direct Unsalaried has the highest potential central cost, in the case where the trainee receives uplift funding of 25% (for teaching in a disadvantaged school). For School Direct Unsalaried trainees in high-priority subjects with first class degrees, the maximum central cost is almost double that for School Direct Salaried. Teach First has a fixed central cost which is "roughly similar to the maximum for a School Direct salaried trainee for a high-priority subject, is greater than the maximum cost for a BEd trainee, but is lower than the maximum cost for postgraduate tuition fee funded routes" (p.63). For trainees of non-priority subjects, however, Teach First costs are highest. Importantly, the authors note that, given an average teaching career path, teachers would not even begin to pay back postgraduate ITT student loans before they were written off (coming as they generally do on top of undergraduate student loans). The impact of this may yet to be felt fully as more mature trainees (over 30) would have graduated before fees began to rise markedly.

Reporting the perceived benefits to primary schools, Allen et al. (2016a) noted that School Direct Unsalaried trainees were significantly more likely to bring a financial benefit than other routes, while School Direct Salaried trainees were significantly more likely to bring a financial benefit than HEI-led PGCE trainees. The greatest significant difference, however, was 'expect to hire', where HEI-led PGCE and BEd were at least three times less likely to be employed than trainees from school-led routes (p.40). The main costs reported by primary schools were mentoring and observation.

Regarding primary trainee characteristics, the only significant difference reported across routes by schools was high confidence in the classroom of BEd trainees compared to HEI-led PGCE. There were no significant differences in trainees' perceived 'high potential to be good teachers' across routes, although BEd students were rated more highly in this respect than those of other routes, but less highly in respect of 'subject knowledge' than other routes (p.17).

Overall monetised costs calculated for primary schools were: a net cost for HEI-led PGCE (-£137), a small positive net benefit for BEd (+£771), and larger positive net benefits for School Direct Salaried (+£1,839), School Direct (fee) (+£1,942), and SCITT (+£2,237). By comparison, overall monetised costs for secondary schools were calculated to be: positive net benefits for all routes ranging from HEI-led PGCE (+£330), School Direct (fee) (+£258), SCITT (+£399), School Direct Salaried (+£2,115), and Teach First (+£10,486) (p.59).

Factoring in the perceived costs and benefits reported by schools participating in the study, the authors concluded that, "For most routes, the net benefit to schools is small in comparison with the costs for central government. The notable exception to this is Teach First, where the largest net benefit to schools is reported" (p.3). They caution, however, that calculations do not include factors "which may dramatically affect the overall short-term costs and benefits reported" (Allen et al., 2016a, p.64), such as differential retention rates, which, at 43% three years from commencement of the programme, are significantly lower for Teach First than all other routes (Allen et al., 2016a). Overall, the authors argue, "schools are more likely to state that benefits are higher than costs for school-based routes than for university-based routes. This gives some support to the government's emphasis on the benefits of school-based training, although there was significant variation for the School Direct Salaried route, suggesting that schools' experiences are not universally positive" (Allen et al., 2016a pp.64-65).

3.8 - Summary

As seen in Chapter 2, over the past four years the DfE/NCTL has presided over, arguably, the most radical reforms of ITT ever undertaken, driven by a policy agenda to shift to school-led routes into teaching. The changes relate variously to the direct impact of the policy to reduce HEI core training provision and increase school-led provision, strategic changes to the way that allocations of training places are made, process changes in relation to the application system, and, associated education context changes relating to supply, recruitment and retention of teachers.

Policy

The rapid shift of training places to school-led routes, and particularly the newly established School Direct route, has meant a continued shrinkage of the undergraduate training sector, combined with a significant reduction in the allocation of core postgraduate places to HEI providers. The further drop over the last three years in primary undergraduate places has seen the undergraduate share of the sector halved since the late 1990s. The historic reasons for this were debated in the last report (McNamara et al., 2008) and have been rehearsed briefly in Section 3.3. In the primary postgraduate sector, over 50% of trainees now follow school-led routes. The effects of these changes, as reported in Chapter 2, have been felt most keenly on HEI ITT providers, where they have caused vulnerability of programmes, and in some cases whole departments; five out of 75 HEI providers have so far withdrawn from the sector (NAO, 2016). There has been a significant reduction in both core undergraduate and postgraduate places, and the speed of the change has given management little time to accommodate. Taking into account the School Direct places for which HEIs are the contracted providers, overall training numbers for individual HEIs may not have reduced greatly, and may even have

increased, notwithstanding HEI income is likely to have been reduced. The reason for this is twofold; first, the loss of core funded places, and second, increased downward market pressure on training fees for School Direct, from schools who are themselves under severe budget pressure. The Key (2016) reported that schools expected their greatest challenges in the next 12 months would be budget pressures/lack of funding (31%) followed by teacher recruitment and retention (19%). A further financial pressure for HEI is the increased costs of recruitment and selection (and planning and delivering) of the more complex and differentiated training routes. A further impact of wider education changes over the last five years is the very significant increase in the proportion of unqualified teachers in primary academies and free schools than in maintained schools (as noted in Section 3.1), and those qualified with QTS only and not an academic award, as discussed in Chapter Two.

Allocations strategy

In order to allow the demand for school-led training to grow progressively, it could be argued, it was necessary initially for NCTL to change the process so that HEIs were informed of their training numbers on an annual cycle, rather than the previous three-year cycle. Thus, there was an annual bidding process in which schools applied for training places and then negotiated with a provider to enter into partnership with them to deliver the training. This caused significant difficulties for HEI ITT providers in particular, in medium- and long-term strategic planning capability. As noted in the last chapter, the serious consequences of this have ranged from closure of HEI education departments, to redundancies, to increased casualisation of staffing, leading the NAO (2016, p.12) to conclude, "The Department's short-term approach means providers do not have a clear, stable basis on which to plan for the long term". Addressing that concern, a new strategy announced in the education White Paper (DfE, 2016a) was to designate a number of providers as 'centres of excellence' in ITT, and reward them with greater security of core training numbers. Albeit this may be little compensation for the locally established training partnerships that continue to not enjoy such security, and for the potential loss of knowledge and expertise built up over decades. Although the idea of 'centres of excellence' per se seems to have been abandoned, NCTL did in September 2016 announce the introduction of "multi-year allocations for 2017 to 2018 for the highest performing providers" and committed to "explore the possibility of extending the number of providers that receive multi-year allocations in the future" (DfE, 2016n, p.7). The highest performing providers were defined, as previously, by data relating to: degree class, quality of training, outcomes, and recruitment performance against allocations. It is, as yet, too soon to see the overall pattern of allocations, and understand what the impact of this change on the sector as a whole will be.

Process

Applicants seeking to follow any primary postgraduate route into teaching would currently apply through the new single integrated platform on the UCAS website, under the filter 'teacher training' (UCAS, 2016b). Here, for 2017/18 entry, they would be presented with around 1,550 programmes from which to choose, with the help of criteria relating to: age range (primary 3-11/12); subject (specialisms e.g. mathematics, science, PE, etc); programme types (HEI, SCITT, School Direct, School Direct Salaried; programme variants (full-time, part-time, with or without vacancies); and outcome (QTS and professional, QTS and postgraduate, QTS

or equivalent). The application process for undergraduate courses (Education with QTS) is accessed through the regular 'undergraduate' filter on the website. Whilst less complex, it is still not self-evident in relation to the clarity of programme characteristics. From the point of view of the applicant, the complexities of the current on-line application process is not helped by apparent inconsistencies in terminology and lack of detailed and directly relevant information on the NCTL 'Get into Teaching' website (see below).

The admissions process for the ITT provider is no less complex; annual changes made by NCTL since 2012 have had significant impact on the management and resourcing of recruitment and selection, and have proved extremely challenging, and often costly, for schools and ITT providers. One of the most lamentable and badly thought through of these changes was the introduction of recruitment controls for the 2016/17 intake (DfE, 2015d); a highly predictable consequence of which was the sacrificing of quality by some providers, in favour of speed of recruitment before the recruitment cap was imposed. This saw the University of Cambridge, and other eminent history departments, threatened with closure overnight before a hastily imposed "75 percent rule" was introduced (Schoolsweek, 2015). Other changes in admissions process include the 2013 repurposing of literacy and numeracy skills tests (first introduced in 2002) to be a condition of entry to (rather than exit from) ITT courses, together with an increase in rigour of the tests and a limit in the number of resits permitted. Universities UK (2014) in their report concluded that ITT reforms "increased pressure on existing and prospective trainees and acted as a disincentive to apply for training, especially at undergraduate level". The report cited that whilst overall undergraduate applications through UCAS in 2013 had increased by 3.1%, applications for education programmes decreased by 2.5% (Universities UK, 2014, p.17).

Education context

Factors such as the continued upward trend in the birth rate and workforce retention problems, have led to increased teacher supply demands, and when juxtaposed with the lowest UK unemployment rate for a decade (ONS, August 2016) culminate in a more challenging recruitment market. The Key (2016), in their State of Education survey, reported that 35% of primary heads said their school was facing a shortage of teachers, and 59% said they had found recruitment and retention difficult to manage in the past year. Particularly worrying was that primary heads reported that, of the top three reasons for teachers resigning, equal first by a good margin alongside 'job offer elsewhere' was 'unable to cope with the workload'. As noted in Section 3.2, in the last four years the proportion of out-of-service teachers increased from 35% of the total number of leavers to 80%. The NAO (2016) also concluded that "retention may be becoming an increasing problem" (p.14) based on numbers leaving the profession between 2011 and 2014, which rose by 11% overall and was matched exactly by the increase in the proportion leaving for 'reasons other than retirement'.

A report by NCTL (2014c) on their drive to attract returners to teaching, elicited no responses from the primary phase, but of the 107 responses from secondary employers some "saw the benefit of recruiting returners for their experience outside teaching", but identified a number of important issues, such as "lack of relevant experience, lack of awareness of changing standards and expectations", and raised questions about their reasons for leaving the profession initially (p.22). The National Teaching Service, the delayed first cohort of which is

now expected to launch in January 2017, is also unlikely to be able to compensate for the shortfall of teachers.

Regional variations reported by The Key (2016) showed teacher shortages greatest in London (56%) and the South East (50%); and least in the North East (17%), North West (21%) and South West (26%). The latter three regions were singled out by Allen et al. (2016b) as having the lowest percentage entry into the profession, and they identified regional variation as the clearest message arising from their analysis of ITT and workforce data. In practice, the national training market is not a 'free labour market', as trainee teachers are increasingly "mature, mid-career changers, home owning, dual-income families who lack mobility" (Howson and McNamara, 2012, p.183). The NAO (2016) has not been alone in noting recently that "Indicators suggest that teacher shortages are growing" (p. 8), and that DfE has "a weak understanding of the extent of local teacher supply shortages and whether they were being resolved locally" (p.12). The Public Accounts Committee (2016) noted that the claim that NCTL garnered evidence on this from School Direct partnerships was undermined by the fact that only 57% of schools were involved in School Direct nationally, and the very ones that were not were "disproportionately primary schools in rural areas and secondary schools in disadvantaged areas" and "it was these schools that struggled to recruit good teachers" (para 7). Only 29% of rural primary schools are involved in School Direct, compared to 41% of urban primary schools (NAO, 2016, p.16). Howson (2016a), an expert on teacher supply, in his written evidence to the on-going Education Select Committee enquiry into teacher supply, advised it was more helpful to consider the matter at a more granular level, citing overall numbers, geographic location and quality of teacher supply (Howson, 2016b).

Given that over 50% of the supply of teachers entering the profession each year is newly qualified, and the last four years have seen the most radical ever reform of routes into teaching, the question of how well NCTL has explained and marketed the routes to potential recruits, through the 'Get into Teaching' website and elsewhere, has been asked by several recent reports. The 'customer journey into ITT' commissioned by NCTL concludes, "There appears to be a large volume and spread of information about ITT and teaching careers but this can be confusing, contradictory and overwhelming" (Williams et al., 2016, p.9). A cursory reading of Section 3.3 above will attest to this conclusion, which is also supported by the two parliamentary enquiries into teacher supply that have reported this year. From the point of view of marketing and recruitment, the overall impact, claimed the Public Accounts Committee (2016) and the NAO (2016), has been to leave potential applicants bewildered and ill-informed about the availability, quality and cost of training locally. Evidence also presented to the NAO (2016), indicated that the increasing proportion of places allocated to school-led routes might be accentuating the teacher supply problem. In 2015/16, for example, HEI-led routes filled 85% of their overall training allocations, while school-led routes filled around 60%. The NAO (2016, p.13) report recommended, "The Department should demonstrate how, through new training routes and the incentives it offers, it is improving recruitment and retention of new teachers and the quality of teaching, and at what cost".

4 - ITT CURRICULUM ISSUES

4.1 - Models of teaching and teacher preparation

The period from 2008 to 2016 saw ongoing contestations about the nature of teaching and the consequent preparation required in ITT. Three basic models of teaching and the teacher, each of which exists with many variations, can be clearly seen in the debates of the time (Winch et al., 2014; Orchard and Winch, 2015):

1. teacher as a craft worker, with personal knowledge deriving from study for a first degree in a relevant discipline, plus an essentially practical body of craft skills, gained through both the experience of teaching and through watching an experienced teacher;
2. teacher as an executive technician, whose degree-level knowledge is supplemented by craft knowledge and technical know-how, the latter informed by research evidence of 'what works', deployed to create effective classroom practice;
3. teacher as a rounded and full professional whose practical, craft knowledge and disciplinary/subject knowledge base is informed and supplemented by a wide range of research and theoretical knowledge including, but not limited to, evidence of 'what works'.

Underpinning these models were differing constructions of teacher knowledge and understanding as including varying degrees of emphasis on the following: craft skills and practical knowledge; recent, relevant and up-to-date knowledge of schools' curricula, policies and modes of pedagogies and assessment; subject knowledge for teaching; the ability to be reflective about personal practice; the ability to critique educational policies and practices more generally; and a degree of research literacy and/or research activity. Debates about these models were played out against the background of the radical shifts in ITT reported in Chapter 2, in particular the move to school-led programmes and the consequent challenges to HEIs as the traditional providers of ITT.

The assertion that all pre-service students should be 'classroom ready' on completion of ITT was undisputed between 2008 and 2016. Although the components leading to this 'readiness' were understood differently by various stakeholders, there was a clear consensus that it *must* involve the acquisition of up-to-date and relevant knowledge of school policies, curricula, pedagogies and assessment methods. Knowledge of current behaviour management strategies was also stressed as vital, as was the ability to provide for diverse pupil learning needs (DfE 2011a, b, d, 2013a, 2015a, 2016a, f, g). These emphases on up-to-date knowledge for classroom readiness mean that the longstanding congruence between the curriculum of primary schools and the primary ITT curriculum (Alexander, 2010) become strengthened still further, as Section 4.2 illustrates in more detail.

Debates about the importance of generating knowledge through apprenticeship models of learning in the workplace, drove much of the policy development in school-led ITT, as described in Chapter 2. Early in the Coalition Government's time in power, the then Minister of Education, Michael Gove, proclaimed that teaching was a craft, best learned through practice "as an apprentice observing a master craftsman or woman" and through those observations "acquiring mastery in the classroom" (Gove, 2010). This model was widely seen

as providing the rationale for School Direct as an apprenticeship model of teacher training located mainly or entirely in the workplace (DfE, 2010), with the assumption that more time spent in schools led to better and 'more relevant' learning for intending teachers. The reconfiguration and simplification of the Teachers' Standards in 2011 (DfE, 2011d) was also seen as supporting moves towards such a school-led, apprenticeship system of teacher education, in part since none of the Standards made any explicit mention of research (Beauchamp et al., 2013) in their original format.

This model of teaching as simply a craft was widely condemned as inadequate across the sector (see, for example, SCETT, 2011; BERA-RSA, 2014a; Gilroy, 2014). Whilst emphasising the practical and localised knowledge of school, class and pupils involved in teaching, the model of teacher as craft worker failed to take into account the many other sources of expertise on which professional practice depends (including research, reflection and critical judgment). This condemnation was also shared by most university providers, which continued to maintain a strong commitment to including "research-based knowledge and scholarship, emanating from a range of academic disciplines and epistemological traditions" in their programmes (BERA-RSA, 2014a, p.4), and to using research "to inform the design and structure" (ibid, p.4) of them.

Most PGCE primary programmes included at least 60 credits at masters level, usually achieved through including some element of enquiry or active research engagement for trainees (for example, through pursuing an assessed action research or practitioner enquiry project). For the majority of programmes, the inclusion of 'research-based knowledge' included broad theoretical ideas derived from the educational disciplines (for example, philosophy), intended to help trainees understand the purposes of education (Orchard and Winch, 2015) or specific issues such as the effects of poverty and socio-economic deprivation on children's educational achievement (Pickett and Vanderbloemen, 2015). As Nunn (2016) spells out on behalf of the university stakeholders' group, the University Council for the Education of Teachers (UCET), the university providers' perspective is that these 'broad and deep' approaches to ITT developed high levels of teacher knowledge and critical thinking, as well as providing the foundations for career-long development of both research literacy and research engagement (see also Chapter 2).

In later government policy documents, the more reductionist model of teacher-as-technician and trainee-as-research-consumer dominates. The Carter Review (DfE, 2015a), for example, clearly sees teaching as a complex and morally responsible professional act underpinned by many different knowledge sources, including research. Overall though, the review adopts a limited view of research engagement, with the dominant role for research being to provide an evidence-base for practice – as in the teacher-as-technician model, in which trainees are positioned as research-literate consumers and implementers of relevant research produced by others. The review states explicitly that there are limitations on trainees' abilities to engage fully in research, and positions them as "intelligent consumers of research who take an evidence-based approach to their own practice" (p.21). To support this model of teacher-as-technician, the review recommends the creation of "synthesised executive summaries providing practical advice on research findings about effective teaching in different subjects and phases" (p.8). Yet closer analysis of the review also shows some confusion about exactly

what forms the research and research engagement should take during ITT (Mutton et al., 2016). Whilst the teacher-as-research-consumer is generally the dominant emphasis, at other points the "notion of the teacher as researcher" (p.22) is introduced in ways which seem to indicate learning through personal and research-focused "enquiry" (p.22) and "clinical practice" (p.21).

Despite this ambiguity, the follow up to the Carter Report (the ITT Framework, DfE, 2016f, p.16) clearly re-states the review's dominant conception of trainees as research-literate consumers of evidence-based research, outlining that in order to meet Standard 4:

> Trainees should be introduced to the most relevant and recent research, propositions and theories relevant to good classroom practice, and should be encouraged to view these with a critical eye, questioning outcomes, conclusions and limitations. Trainees should also demonstrate an understanding of the basics of empirical research methods, both quantitative and qualitative, know where to find evidence-supported resources for teachers, and understand the benefits and limitations of different types of research.

Here, as in other aspects of this report, the model of teacher-as-technician – albeit a research-literate technician, able to cast a 'critical eye' over the relevant research propositions and theories with which they are presented – dominates. This formulation of the teacher may seem far from the fully research-engaged and research-informed professional envisaged as ideal by some commentators (see, for example, Orchard and Winch (2015); the BERA-RSA review (2014a)); and at face value it represents a significant progression from the narrow and essentially anti-intellectual model of teacher as craft worker, formulated in government pronouncements just six years earlier. We would, however, caution that the structures of some school-led training schemes, notably School Direct Salaried, instantiate principles of learning through immersion in classrooms and fundamentally apprenticeship modes of training, which support the endurance of the craft model. And all current ITT programmes are still premised on the ongoing assumption that more time in schools necessarily equates to better trainee learning and teacher quality. While teacher-as-technician is now, we would suggest, the dominant model of the teacher spelt out in the ITT curriculum found in DfE (2016f), the shadows of the craft model still haunt the system. This curriculum and, in particular its understanding of research within ITT, raises a number of questions which are analysed in the final sections of this chapter.

4.2 - Primary ITT: curriculum change

There is a distinct lack of research evidence to draw on when attempting to analyse exactly what is taught, when, how and where on ITT primary programmes in England. Much of the current evidence in this area is locked up within the details of the curricular and pedagogical provision made by universities, schools and other ITT providers. The Carter Review (DfE, 2015a) invited and received details of this curriculum provision; unfortunately, all that raw data is regarded as confidential by the DfE, and the final report gives little detail about the methodology it deployed when analysing this data. This makes it difficult to ascertain more than the broadest outlines of programmes, often through the strengths and deficits within them which the review identifies. This summary of changes in the ITT curriculum between

2008 and 2016 therefore relies only on the publicly available evidence, most of which comes from government policy statements.

We would also add the caveat that, in part because of this lack of research evidence, we look mostly in this chapter at primary curriculum issues – for both schooling and ITT – from a policy standpoint. That is, we consider curriculum documents and policy statements, outlining what the formal curriculum is *stated or intended to be*, rather than as it is *enacted*. As Stephen Ball (1994, p.16) helpfully points out, curriculum documents and other policies are only ever,

> representations which are encoded in complex ways (via ... interpretations and re-interpretations) and decoded in complex ways (via actors, interpretation and meanings in relation to their history, experiences, skills, resources and context).

It is only in the later parts of this chapter that we consider some of the many issues around curriculum enactment and mediation in the fragmenting and diversifying school and ITT systems now found in England.

In Chapters 1 and 2 we underlined that the move to school-led ITT means it is often no longer helpful to separate policy documents relating to the school and ITT sectors. Certainly, in the case of the ITT primary curriculum, policy documents have to be read in conjunction with changes to the National Curriculum and assessment arrangements in primary schools. In 2010, Alexander (2010, p.489) identified the increasing alignment of primary ITT to the multiple demands of the school curriculum, both explicit and implicit. Since that date, evidence shows that the ITT curriculum has now moved closer still to the primary school curriculum. Of key importance here is also that this alignment is further strengthened by the epistemological and locational changes for ITT which we have identified in Chapter 2, particularly the shift in a traditional model of ITT which sees the HEIs' role as basically to provide content knowledge (research or theory) which trainees then 'apply' through practicum in schools.

For all the reasons outlined above, the sections of this report on the curriculum are structured as follows. A short summary of recent curriculum and assessment reforms in primary schools gives an overview of changes in the sector. The ways in which these changes have been 'translated' into the frameworks for the primary ITT curriculum is then discussed. Our necessarily brief focus on this highly complex and demanding curriculum outline focuses on three of its components: the subject curriculum and subject knowledge for the generalist class teacher (a role still undertaken by the majority of primary school teachers); subject specialisms in primary ITT, with the use of PE and mathematics as exemplars; and knowledge of initiatives, curriculum and pedagogic approaches beyond the stated subject curriculum. Finally, we identify two inter-related issues arising from our analysis of the primary ITT curriculum.

Recent curriculum and assessment reforms in primary schools

As Chapter 2 identifies, England is in a period of a rapid deregulation of its schools, with free schools and academies freed from national and local control in terms of the curriculum they

follow; although it is important to note here that academies must teach a broad and balanced curriculum including English, maths and science, and religious education (DfE, 2013a).

The still relatively small number of primary schools allowed such freedom may be following alternative curricula to the National Curriculum (for example, The International Primary Curriculum (IPC)), but even then, these alternatives must be tailored to meet the demands of the (mandatory) end of Key Stage assessments, with resulting limitations on their implementation (Jones, 2016, p.26). In this sense, these national assessment structures (and the National Curriculum from which they derive) still loom large in all primary schools, regardless of their status and degrees of autonomy. Schools have increased curriculum freedom, weighed against increased accountability for ensuring pupil learning outcomes meet age-related expectations and national standards.

The reform of the primary school curriculum, along with changes to national, standardised assessment regimes, was widely anticipated in 2010 (see, for example, Duncan, 2010; Hayes, 2010), following the recommendations of both the Rose Review (2009) and the Cambridge Primary Review (Alexander, 2010).

These anticipated reforms were seen as providing a welcome antithesis to the structured content of the previous national strategies, the prescribed schemes of work and the level descriptors for assessing learning (Hayes, 2010). A new skills-based curriculum, based on the Rose Review's recommendation for linking subjects to the six areas of learning (English, communication and languages; mathematical understanding, scientific and technological understanding; historical, geographical and social understanding; understanding physical development, health and well-being; and understanding the arts), was due for implementation in schools by September 2011. However, this initiative proved to be short-lived due to the change in government in May 2010; by June of that same year a different direction for national curriculum and assessment reform had been set. Many national strategy documents and associated website resources were lost overnight, although some were archived by stakeholders outside government.

The DfE, in an announcement delivered by Nick Gibb, the Schools' Minister, in June 2010, proposed a new National Curriculum which would be "returned to its intended purpose – a minimum national entitlement organised around subject disciplines", with a clear message relating to the government's view of the proposed new skills-based curriculum as:

> [A] move away from teaching traditional subjects like history and geography could have led to an unacceptable erosion of standards in our primary schools. Instead, teachers need a curriculum which helps them to ensure that every child has a firm grasp of the basics and a good grounding in general knowledge, free from unnecessary prescription and bureaucracy (Gibb, 2010).

It was clear from Michael Gove's press release announcing changes to the primary National Curriculum in June 2012, that the subject disciplines of English, maths and science would continue to dominate the primary curriculum (Gove, 2012b).

In his response to the publication of the draft programmes of study in June 2012, Alexander (2012, p.369) referred to the government's "perpetuation of the damaging Victorian legacy of a two tier curriculum" and re-emphasised two of the central arguments of the Cambridge Primary Review: first, national standards should not be limited to aspects of English, maths and science; and second, schools must be accountable for the quality of teaching and learning in all subjects. Indeed, the risk that schools would marginalise (or exclude completely) all subjects which were not assessed or used for measuring accountability, was raised as an issue and referred to by Alexander (2012) as "the core and the rest".

Four years on, the debate over marginalisation of subjects 'beyond the basics' in the primary school curriculum continues. In his Chief Inspector's monthly commentary in May 2016, for example, Michael Wilshaw suggested that recent intensification of the focus on teaching maths and English had "pushed other compulsory subjects, notably modern foreign languages and science into the margins of the curriculum in many primary schools". (Wilshaw, 2016b). Although remaining a core subject in National Curriculum terms, the marginalisation of science became evident from the point at which maths and English acquired subject specific national strategies, and science did not (Richards, 2010). In addition to this, the compulsory statutory science assessments at the end of Key Stage 2 came to an end in 2009, whilst the testing of maths and English remained. Fears that this would lead to a reduction in status and time allocated to teaching science were raised by the Campaign for Science and Engineering in the UK (CaSE): "there is a very real risk to science teaching as long as national tests persist in mathematics and English. The thought and time dedicated to science may be reduced as schools focus on measures that are nationally assessed" (Leevers, 2009, p.1).

The culture of assessment also took a new direction following the recommendations of the Bew review of Key Stage 2 testing assessment and accountability (Bew, 2011). Initially, the abandonment of national curriculum level descriptors – in favour of 'assessment without levels' – marked a new form of assessment regime in which primary schools were encouraged to develop their own systems for recording and reporting pupil progress. Drawing from the findings of the Carter Review (DfE, 2015a), the commission on assessment without levels identified training for assessment by ITT providers as a weakness (McIntosh, 2015), supported to some extent by the overall comparatively low rating in the 2014 NQT survey for this aspect of teacher training (66% of respondents rated their training on how to assess pupil progress as good or very good) (NCTL, 2014). This coincided with a turbulent time of curriculum and assessment reform, as schools and ITT providers began to work within the new assessment and accountability system. The DfE was clear that a standardised system for assessment linked to the new national curriculum would not be imposed on schools, but instead, a single page document was published setting out core assessment principles designed to "help all schools as they implement arrangements for assessing pupils' progress against their school curriculum" (DfE, 2014b). This document stated that effective assessment principles should "give reliable information to parents about how their child, and their child's school, is performing; help drive improvement for pupils and teachers, and make sure the school is keeping up with external best practice and innovation" (DfE, 2014b, p.1). By 2016 though, the introduction of a new and yet more rigorous system of end of Key Stage 2 assessments led 97% of respondents in a National Union of Teachers survey of primary school teachers to

conclude that "preparation for the SATs had had a negative impact on children's access to a broad and balanced curriculum" (Jones, 2016, p.26).

The primary ITT curriculum

Debates over the knowledge to be incorporated into and 'legitimised' by the primary ITT curriculum stretch back well beyond the discussions between universities and colleges of education in the late 1960s, as recorded in the Colston Papers (Taylor, 1969). But curriculum content, like so many other areas of ITT, became politicised and highly regulated in the 1990s, and moved out of the direct control of the HEIs then providing the vast majority of ITT programmes. Key government interventions in this area before 2008 include the following: Circular 4/98 (DfEE, 1998) which specified the ITT curriculum in great detail (including elements of trainees' subject knowledge and understanding, their planning, teaching and classroom management and their extended pedagogical knowledge and skills (McNamara et al., 2008); the introduction of QTS skills tests in mathematics, English and ICT in 2001; and another framework for ITT, in this iteration abandoning attempts to prescribe the details of curriculum and pedagogy (DES, 2002).

The main focus of the primary ITT curriculum is now on preparing trainees to meet the Teachers' Standards (DfE, 2011d) and to be 'classroom-ready' by the end of ITT. Unsurprisingly, given that these Standards create the assessment criteria for giving QTS at the end of ITT – and determine Ofsted inspection criteria for grading trainee performance when providers are inspected – they have formed powerful 'guides' for the content of the ITT curriculum and the accompanying assessment procedures. These Standards, implemented from September 2012, are divided into two parts: part 1 standards for teaching, and part 2 standards for personal and professional conduct. Part 1 lays out eight standards under broad headings with supplementary bullet points providing further details and clarifications of the following (in summary): the need for teachers to set high expectations, promote good pupil progress, demonstrate good subject and curriculum knowledge, plan and teach effectively, adapt their teaching to pupil needs, make accurate assessments, manage behaviour effectively, and a final standard on fulfilling wider professional responsibilities (DfE, 2011d, pp.10-13).

As specified in Chapter 2, the Carter Review (DfE, 2015a), charged with determining the core elements of ITT skills and knowledge in both primary and secondary ITT, reported to the DfE in 2015. The status of this review is now somewhat ambiguous, but we consider that it remains important because its findings informed the ITT framework of content (DfE 2016f). The Carter Review found "considerable variability in ITT content across the system" and

> identified what appear to be potentially significant gaps in a range of courses in areas such as subject knowledge development, subject-specific pedagogy, behaviour management, assessment and special educational needs and disabilities (SEND) (conclusion X, p.6).

It then made 18 recommendations to address this situation (see Chapter 2), including the development of a framework of core content for ITT (R1-2), and the creation of central portals of executive summaries of research findings about effective teaching and learning across

subject and phase, together with a repository of resources and guidance on assessment (R6-9).

In the summer of 2016, the publication of the ITT Framework (DfE, 2016f) explicitly used the Teachers' Standards to address recommendations 1 and 2 above: "the framework of core content...(which) should ensure that all trainee teachers receive a sound grounding in the right elements of good classroom practice" (p.1). The focus here is specifically on content (setting out "the key knowledge, practice and behaviour" for trainees to acquire) with the explicit purpose "to guide those delivering ITT in what should be prioritised"; it is not intended to be "an exhaustive curriculum" nor to prevent providers from being innovative (p.3). A further stated purpose is to allow "room for innovation in the design and delivery of ITT" and to avoid "over-prescription" and the use of the kind of over-detailed curriculum guidance which simply "becomes a mechanical tick list for providers to demonstrate compliance" (p.5). Yet against such statements implying some degree of freedom for providers in curriculum design and implementation, comes the strong suggestion that the framework should become "mandatory", used as "one of the key determinants of the quality of ITT", and with compliance linked to the "allocations of training places" (viii p.7; recommendation 3.I). The curriculum freedom offered here may then be illusory, balanced as it may be against clear accountability measures.

This kind of curriculum intervention and coercion – often enforced through Ofsted inspections and other audit and performativity measures – is far from unknown in the recent history of ITT. Another variation of it has been the implementation of what Furlong (2013, p.37) calls "centrally-defined practice" to determine the primary ITT curriculum. Two recent examples illustrate such practice and the effects of its implementation. First, from 2010 onwards, government policy for the teaching of early reading prioritised a phonics 'first and fast' approach, particularly the use of systematic synthetic phonics (SSP), over other effective, research-informed strategies (examples of which are discussed in Dombey et al., 2010). This prioritisation soon made its way into the primary ITT curriculum. Coinciding with the introduction of the phonics screening check in schools for year one children (piloted in 2011, introduced in 2012), was the following statement in Teachers' Standard 3: teachers (and trainee teachers) should "if teaching early reading, demonstrate a clear understanding of systematic synthetic phonics" (DfE, 2011d).

ITT providers were then notified that teaching early reading using this SSP system was to be a training priority for all primary English programmes (UCET, 2012). Accountability measures to ensure that this instruction was implemented included evaluations of the quality of this provision through future Ofsted inspections, and a specific question on the adequacy of phonics training received in the NQT primary survey in 2012. The adequacy of each providers' phonics training was rated as 'red', 'amber' or 'green' by the TDA, then the regulatory body for ITT every year. If provision was judged to be 'amber' or 'red' (that is, not fully compliant) this triggered a warning letter and/or a visit from the TDA quality and inspection unit. Such a visit had implications for the future allocations of training places. These accountability measures – and the curriculum intervention and coercion they encapsulate – have undoubtedly increased pressure on all providers to follow current government policy by making SSP a training priority in the ITT primary English curriculum.

It should be noted, however, that many will also include in their curricula other, well-established and evidence-based approaches to teaching reading effectively.

A similar example of the ITT curriculum being moulded directly around the primary school curriculum is found in the teaching of early mathematics. Here, one Standard includes the statement "if teaching early mathematics, demonstrate a clear understanding of appropriate teaching strategies" (DfE, 2011d, p.11). The exact strategies to be used were not specified in the standards, but the ITT curriculum specifications of 2016 detailed knowledge of "number facts, times tables and basic operations and algorithms for mathematics" (DfE, 2016f, p.15). Again, the quality of this type of mathematics training in ITT is now a clear focus in all primary Ofsted inspections, and the primary NQT survey includes a specific question to assess new teachers' perceptions of the adequacy of their ITT preparation in this area.

4.3 - Primary ITT: curriculum components

Preparing to teach the multi-subject primary curriculum

With the revision of the primary National Curriculum, the contents of the primary ITT curriculum have expanded, in line with the increasingly complex and professionally demanding primary school curriculum and assessment regimes and the enhanced teaching responsibilities which accompany them. Alexander (2010) further argued that this school curriculum – and by extension its 'translation' into ITT provision – makes excessive demands on the depth and breadth of teacher knowledge, requiring expertise in a wide range of subjects, alongside a very strong focus on the 'basics' of mathematics and literacy. In order to be a teacher, trainees need to acquire good subject knowledge of all – or nearly all – 11 listed subjects and curriculum areas, plus religious education, personal, social and health education (PSHE) and, as stated in the National Curriculum 2013, "other subjects or topics of their choice" (DfE, 2013a, p.5).

Whilst concerns have been repeatedly raised about the adequacy of models of subject knowledge preparation in primary ITT (Alexander, 2010; Eaude, 2011; Murray and Passey, 2014), comparatively little attention has been paid to what preparation for such multi-subject knowledge for teaching at primary level might look like, and how knowledge might be acquired and developed. This is a particular issue for primary ITT, not just because of the number and breadth of subjects to be taught, but because trainees also need to know how to make meaningful links between subjects, particularly in terms of creating cross-curricular understanding (Eaude, 2011) and integrating the teaching of the 'basics' of literacy and numeracy into other subjects. But the key issue is that for many primary trainees there is no neat 'mapping' between knowledge acquired through a first degree – or even through GSCE or A level studies – and the contents of the primary curriculum.

Most models of teaching and teacher knowledge stress the importance of trainees developing 'subject knowledge for teaching' (SKT) or 'pedagogical content knowledge' (PCK), drawing on their personal subject knowledge. Here the many analyses stemming from the seminal work of Schulman (1987, 1992) are highly influential (see, for example, Ma, 1999 in mathematics; Loughran et al., 2012 in science). This is, of course, predominantly a secondary school model of specialist subject teaching. Indeed, the very origins of the PGCE are in

secondary models of ITT (Gilbert and Blythe, 1983) in which it is assumed that there is a straightforward mapping between knowledge of the subject, through study for a first degree, and the necessary adaptation of that knowledge into appropriate curriculum and subject-specific pedagogies for the (often single) subject to be taught in schools. Arguments around the value of the university contribution to ITT often involve references to the development of subject knowledge through research-informed models of teaching, such as clinical practice (Burn and Mutton, 2013).

Stress on the importance of good subject knowledge for teaching dominates recent school and ITT policy statements (see, for example, DfE, 2015a, DfE 2016a, DfE, 2016f), as discussed below. But these conceptions of PCK and its place in effective teaching adopt a predominantly secondary focus on developing pedagogical knowledge, working from knowledge acquired through degree-level study in which trainees are assumed to have gained appropriate knowledge of what Schwab (1964) terms the structure (the content, boundaries, organisation and inter- and intra-relationships) and the syntax (conventions and rules) of their subject. There are few acknowledgements of what subject knowledge might look like for primary school teachers, who do not have such advanced knowledge of the (many) subjects they need to teach, nor of how PCK might be built in the many, inter-connected forms of knowledge required for primary teaching across various subjects and curriculum areas.

One full Standard (number 3) in the current Teachers' Standards is devoted to the need for teachers to have good, secure subject and curriculum knowledge, and to "demonstrate a critical understanding of developments in the subject and curriculum areas, and promote the value of scholarship" (DfE, 2011d, p.11). The Carter Review (DfE, 2015a) follows up this emphasis on the importance of subject knowledge, stating its conviction that "a high level of subject expertise is a characteristic of good teaching" (ibid, XI), and stressing that this applies to both secondary and primary phases. It makes subject knowledge development a key part of its recommended framework for ITT (Recommendation 1.a). It also acknowledges that "(T)here are some particular challenges for subject knowledge development – the breadth of the subject knowledge primary teachers need to teach the new curriculum, for example, may be difficult to cover, especially within a one year programme" (XIV). This message that for primary trainees the "challenge is one of breadth" (DfE, 2015a, p.26) is reiterated a number of times. Yet as a solution to this clear 'challenge' there is only one vague suggestion that "(W)e believe there is a number of ways that providers and the system could build in extra opportunities for the development of subject knowledge", together with a recommendation (R4) for the DfE to make "funded in-service subject knowledge enhancement courses available for primary teachers to access as professional development". This emphasis on funding primary-specific in-service provision is welcome, but it hardly tackles the crucial issues within primary ITT.

The Carter Review (DfE, 2015a) also identifies "subject-specific pedagogy" including "links between subjects" as priorities for the proposed ITT framework (ibid, XV). In the main body of the report there is a statement that the challenge for the development of primary teacher subject knowledge during ITT, particularly for some postgraduate trainees, is one of 'breadth' (ibid, 2.3.8.) Later sections identify some subject areas, notably "modern foreign languages,

music and computer science" as being where trainees "are more likely to lack subject knowledge, experience and confidence" (ibid, 3.3.7). The same section continues:

> There are relatively few primary teachers with a maths or science background, meaning that ITT needs to address core subject knowledge in these areas to give primary teachers the necessary knowledge as well as confidence to teach them effectively.

But overall, as we stated in Chapter 2, for a report on the core ITT skills and knowledge, there is surprisingly little detail on phase-specific imperatives, including the demands of developing the multi-subject knowledge of generalist primary teachers.

In the 2016 ITT framework (DfE, 2016f), exemplification of curriculum support for the standard on subject knowledge (Standard 3) is given, including knowing "a range of effective subject-specific pedagogical approaches"; "how to address common pupil mis-conceptions in their subject(s)"; and "demonstrating a full understanding of the requirements of the national curriculum, national Key Stage tests and specifications for public examinations for the subject(s) and phase(s) they will be teaching" (p.15). There are specific requirements for teaching early reading or mathematics (SSP for reading and a range of strategies for primary mathematics, as discussed earlier in this section), but otherwise there is no phase-specific guidance for the primary ITT. The issue, briefly raised in the Carter Review, of the breadth of the primary curriculum and the challenges raised for subject knowledge development in ITT at the levels specified for achieving Standard 3, are not acknowledged at all.

The multi-subject curriculum in primary ITT is, however, a two-tier curriculum in which some subjects are clearly attributed more value than others. The emphasis on the core subjects of English and mathematics, and to a lesser extent science, dominates the content of the primary ITT curriculum – as it dominates in schools – often at the expense of other subjects and areas (Alexander, 2010; 2012). For this reason, both mathematics and English receive particular emphases within ITT programmes, whether through the direct teaching which trainees receive in HEIs or schools, or through their experiences of teaching or observing teaching in schools. This situation has raised concerns about the depth and breadth of trainee experiences, particularly in the foundation subjects and broad curriculum areas.

As stated in Richardson's BBC news report, the Deans of Education Million Plus higher education stakeholder group, for example, raised concerns about the lack of time allocated to train teachers in foundation subjects, such as PE and design and technology, citing as little as three hours training in some such subjects (Richardson, 2016). Reporting to the Education Select Committee in June 2016, Dr Jane Courtney (a member of the Million Plus network) reiterated concerns over the brevity of such training affecting the consistency of primary teaching, teacher subject knowledge and progress in pupil learning (Courtney, 2016). One such concern included the statement:

> Primary school teachers need to provide quality learning experiences across a wide range of subjects. Initial training for primary is limited in arts, humanities and physical education. All these subjects contribute to creating a rounded education. More time needs to be invested into primary school teachers at the outset to enable them to develop

children holistically. Under the current model their preparation is insufficient (Courtney, 2016).

Adams et al. (2015) contribute to this view, arguing that current ITT timetables do not include sufficient time for engagement with the theory and practice necessary to fully understand the impact of holistic approaches to the curriculum, in particular, teaching aspects of social, moral, spiritual and cultural education (SMSC), and feeling prepared to address sensitive and 'controversial issues'. In addition, findings from the Ofsted (2013b) survey report into the teaching and learning of PSHE, highlighted inadequacies in 40% of the schools surveyed, and recommended that "all initial teacher training courses include subject specific PSHE education" (p.9).

Subject specialism in primary ITT

The history of primary education shows that training specialist primary teachers to address the highly complex demands of the curriculum has long been part of primary ITT programmes, whether at undergraduate or postgraduate levels (Gilbert and Blythe, 1983). There have also been intense debates about the required subjects for specialist study and how such provision should be structured, particularly on 'time poor' PGCE programmes. At undergraduate or certificate levels, past debates have included how to achieve a balance between developing the personal and academic knowledge of the intending teacher, and their knowledge of the school curriculum and ability to teach it effectively (Taylor, 1969).

The main approach taken to primary specialisms has been to give greater support to what Alexander (2010) calls 'generalist with specialist' routes. Two other alternatives suggested by the Cambridge Primary Review of 'combined domain specialist' or 'single domain specialist' in primary training courses have received less support. In 2016, subject specialist study still exists on some primary undergraduate routes, but "this learning is often vocationally focused, preparing students to 'deliver' the primary National Curriculum effectively" (Murray and Passy, 2014). As Chapter 3 indicates, analysis of undergraduate primary routes for 2017 entry shows 31 providers offer 53 primary courses (including Early Years), of which only a handful overall include subjects specialisms of mathematics, English, music and PE. Primary courses at postgraduate level offer specialisms in mathematics (66, of which 23 are HEI), SEN (43, of which 6 are HEI), science (11, of which 4 are HEI), PE (30, of which 8 are HEI), music (1 HEI), geography (6, of which 0 are HEI), history (6, of which 0 are HEI), and ICT and computer science (2 HEI) (UCAS, 2016, 24th October).

Predictably, the growth of primary specialist routes in certain subjects waxes and wanes with perceived needs or particular initiatives within the school sector. For example, a growth in the number of PE specialists occurred after a government initiative to raise levels of participation in sports across the population as a whole, and in primary schools in particular. The 'PE and sport premium' was a £450 million fund, available between 2013 and 2016, designed to help primary schools improve the quality of the PE and sport activities offered to pupils (DfE, 2013b). One of the key recommendations was for 200 specialist primary PE teachers to be in place by December 2015. A pilot programme was announced in 2013, following which 11 ITT providers were able to offer a generously funded postgraduate, school-led training course from 2015; this was made up of 50% generalist primary training in the core subjects (English,

mathematics and science) and 50% specialist PE training (DfE, 2015e). According to the same source, the first cohort of this scheme had some distinctive features compared to other primary phase trainees: 75% had a sports-related degree; 77% had upper second class degrees or better, compared to the generalist primary PGCE average of 73%; 61% were male, compared to a 21% primary PGCE average; and 100% of school-led trainees secured their first teaching post.

The training of mathematics specialists also makes an interesting case study, not least because this has long been an area where government attention and funding – and hence provider places – have been directed. The need for such specialists to address perceived deficits in the mathematical subject knowledge of many primary school teachers, an area of debate for a long time (see DES, 1982; Haylock and Cockburn, 1989), gained new importance following the recommendation of the Williams (2008) review of mathematics teaching in early years settings and primary schools that there should be a primary mathematics specialist working in every school. One of the results of these recommendations was the development of the masters level 'Mathematics Specialist Teacher' programme (MaST). As discussed in Chapter 3, the government started to offer financial incentives for intending primary school teachers choosing to train as 'specialists': a new recruitment drive focusing on training more primary mathematics and science specialists included financial incentives for trainees enrolling on primary mathematics specialist programmes (DfE, 2011b).

The government's intention to spend £11 million on creating 'maths hubs' to raise standards in 2013 (Truss, 2013), and a further commitment to spending £41 million to provide schools with materials and resources for implementing South-East Asian methods of mastery maths teaching (Guardian Press Association, 2016), positions the development of the 'specialist' mathematics teacher at the forefront of ITT. The new strategy is to train 700 specialist 'mastery' teachers who will, in turn, train their colleagues and peers (Gibb, 2016). If this goes ahead, it will undoubtedly impact on the number of ITT providers offering programmes with a mathematics specialism in future.

Beyond the subject curriculum

The ITT curriculum does not stop at subject knowledge, however. Rather, the core subject curriculum has to be necessarily supplemented by knowledge of the many other curriculum and pedagogical initiatives ongoing in primary schools at the time that training takes place. In their 2008 review of primary ITT, McNamara at al. (2008, p.15) observed,

> Learning to teach in the 21st century, notwithstanding an enduring focus on the core curriculum, involves demonstrating expertise in an ever-increasing curricular and pedagogic knowledge base and skill set.... The aspiring primary teacher is also required to broaden their key focus on the academic curriculum to encompass contribution to society, safety, health, and economic wellbeing. They also need to develop an understanding of an extended range of professional contexts, from working with others in the classroom to working in multi-professional teams providing access to integrated and specialist services including childcare, parenting and family support, community facilities/learning and, finally, to promoting community cohesion.

Knowledge of some of these areas (for example, explicitly addressing and referencing the five outcomes of Every Child Matters (DfE, 2003) across the curriculum) may have receded in terms of their importance in the primary – and therefore the ITT – curriculum. But other areas have crowded in, for example, embedding an understanding of democracy, the rule of law and individual liberty as part of promoting British values (DfE, 2014c), and understanding and implementing the Prevent agenda. Making provision for PSHE is an expectation of every school curriculum in England, and state-funded schools must offer a curriculum which:

> promotes the spiritual, moral, cultural, mental and physical development of pupils at the school and of society, and prepares pupils at the school for opportunities, responsibilities and experiences of later life (DfE, 2013a, p.5).

However, specific PSHE programmes of study are not published in the current national curriculum document. Instead, the PSHE curriculum can be accessed via the PSHE association website.

Since the TDA Standards for the award of QTS in 2002, the expectation for trainee teachers to understand how to address the needs of pupils with diverse needs has been clear. This emphasis was carried on in the 2011 standards, and in the 2016 ITT framework, albeit in ways which have evoked criticism from some commentators. There are, for example, no direct references to the promotion of social justice through education in the standards, and similarly no references to the 'achievement gap', which featured so strongly in government discourse earlier in this decade. Also missing is mention of how teachers might best support socio-economically disadvantaged pupils, who may be under-achieving in terms of education. This is despite the fact that research clearly shows how important it is for schools and teachers to recognise the effects of poverty and socio-economic deprivation on children's educational achievement (Pickett and Vanderbloemen, 2015; McNamara and McNicholl, 2016). The Standards do stress the more generic areas of inspiring, motivating and challenging pupils (Standard [S]1), promoting "good progress and outcomes" for all (S2) and adapting "teaching to respond to the strengths and needs of all pupils" (S5). But the omission of explicit references to social justice agendas is not helpful to many teacher educators, who see these agendas as being central to their avowed practices, nor to their trainees struggling to learn to teach in schools in low socio-economic areas. Perhaps because of the lack of direct references to these areas of social justice in the Standards, neither the Carter Review (DfE, 2015a) nor the ITT Framework (DfE, 2016f) mentions these long-standing elements of the curriculum within HEIs (McNamara and McNicholl, 2016; White and Murray, 2016).

In terms of understanding the needs of pupils with English as an additional language, there has been a marked shift in expectations for trainees. These have developed over time from working with a more experienced teacher to support children's language needs and identify levels of attainment (TTA, 2001), to the following expectation outlined in the 2007 TDA Professional Standards for Teachers:

> Know how to make effective personalised provision for those they teach, including those for whom English is an additional language or who have special educational

needs or disabilities, and how to take practical account of diversity and promote equality and inclusion in their teaching (TDA, 2007, p.17).

The 2011 Teachers' Standard 5 builds on this expectation, stating that teachers must:

> have a clear understanding of the needs of all pupils, including those with special educational needs; those of high ability; those with English as an additional language; those with disabilities; and be able to use and evaluate distinctive teaching approaches to engage and support them (DfE, 2011d, p.12).

Back in 2005, the TDA NQT survey research report indicated low ratings from NQTs regarding preparation for teaching pupils with diverse needs. For example, the question relating to feeling prepared to teach pupils from minority ethnic backgrounds received 'good/very good' ratings from 30% of respondents in 2003, rising to 35% in 2005; and feeling prepared to work with children with English as an additional language received 'good/very good' ratings from 20% in 2003, rising to 27% in 2005 (TDA, 2005, p.3). Encouragingly, however, by 2015 the proportion responding 'good/very good' to the NQT survey question 'How good was your training in preparing you to teach pupils with English as an additional language?' rose to 57% (NCTL, 2015d, p.48).

From 2003 to 2005, in terms of whether NQTs felt prepared for working with pupils with special educational needs, a new question in the TDA NQT survey (introduced in 2003) yielded fairly consistent results, with 43-45% of respondents answering 'good/very good' (TDA, 2005:11). Responses to the same question in the 2015 survey indicated a rise to 64% 'good/very good' (NCTL, 2015d, p.47)

The importance of trainee teachers knowing how to support pupils with specific needs (including pupils who might have special educational needs and disabilities, and pupils for whom English is an additional language (EAL)) was raised in the 2015 Carter Review of ITT. In particular, it discussed the manner in which trainee teachers are taught to use assessment data in order to design appropriate learning programmes which enable pupils to make "good progress and access the mainstream curriculum" (DfE, 2015a, p.34). Later reinforced in the post-Carter ITT framework as part of Standard 1, is the obligation of providers to ensure trainee teachers "set high standards which inspire, motivate and challenge" all pupils, "including pupils who might have special educational needs and disabilities (SEND), and pupils for whom English is an additional language (EAL)" (DfE, 2016f, p.13). To address Standard 5, the 2016 ITT framework stipulates that providers must "ensure that trainees are equipped to identify the needs of all pupils, avoiding labelling by group, and make provision for them, including seeking the advice of colleagues with specialist knowledge and experience" (DfE, 2016f, p.17). The expectation that SEND training, grounded within the principles of the SEND Code of Practice, should be integrated throughout ITT training programmes is set out as part of the recommendations for Standard 5. To enable trainee teachers to gain a better understanding of teaching pupils who have special educational needs or disabilities, teacher training providers are able to place trainees in special schools or pupil referral units as part of programmes designed to provide a full range of experiences across age phases and ability ranges (DfE, 2016m).

In recent ITT policy documents (DfE 2011d; 2015a; 2016g), 'behaviour management' receives particular attention. There is little doubt that trainees need to learn to manage pupil behaviour; concerns relating to this issue are one of the most cited preconceptions of new teachers entering the profession (Hobson et al., 2009; DfE, 2015). Unsurprisingly then, this area has long been a major focus for the ITT curriculum, aiming to equip trainees with the knowledge and practical strategies required for managing behaviour. Those designing these programmes have not been short of advice set out in government policy and advisory documentation (see, for example, Steer, 2005; DfE, 2011a; Taylor, 2011).

Following on from practical advice given in a checklist for behaviour, *Getting the simple things right* (Taylor, 2011), one complete teachers' standard (DfE, 2011d) sets out the baseline expectation that a teacher must "manage behaviour effectively to ensure a good and safe learning environment", including by the implementation of clear rules and routines and the establishment of a framework for discipline to ensure high standards of behaviour. The White Paper *Education Excellence Everywhere* (DfE, 2016a, p.28) also prioritises:

> …improving the quality of training so that all new teachers enter the classroom with advanced subject knowledge, practical behaviour management skills, and a greater understanding of evidence-based practice and how to adapt their teaching to unlock the full potential of pupils with a wide range of different needs.

As well as the additional curriculum guidance given in DfE (2016g) to the standard on managing behaviour, there is a specific and separate report produced by a group led by Tom Bennett – appointed as a new school 'behaviour tsar' by the DfE. These guidelines aim to advise ITT providers on the most effective ways to prepare new teachers for managing pupil behaviour and preventing disruption in the classroom (DfE, ibid). It is hard to ascertain whether this disproportionate degree of attention to one aspect of ITT – albeit an important one – is the result of a deliberate hyper-focus or a micro-political compromise by the group working on the ITT framework.

Criticality and research engagement in primary ITT

There are difficulties for many ITT providers, particularly in the university sector, in combining the required focuses on the primary school curriculum and the changing raft of initiatives for education in schools, with the depth, breadth and criticality of knowledge traditionally valued and implemented in the ITT curriculum. The pressures to support trainees during sustained, increasingly high stakes and highly performance driven periods of 'practice' in school, often dominate the formal and the hidden curriculum of ITT, taking emphasis away from all other areas. Brown et al. (2016a), for example, in their analysis of provision from school-led routes in particular, report a recent decline in 'delivering' the more academic elements of ITT programmes, such as theories of teaching and learning and research-informed pedagogy. These pressures exist in all primary ITT programmes, but are particularly acute on one-year postgraduate programmes of any kind. We would suggest that because curriculum and assessment frameworks and practices in primary schools *and* the ITT curriculum are increasingly dictated by government policy, compliance and regulations, opportunities for encouraging *all* trainees to engage in critical forms of learning may well have been reduced.

Despite strong evidence that engaging with research enables practitioners to examine and refine their own practice (BERA-RSA, 2014a), the extent to which ITT programmes can enable primary trainees to become actively engaged in some form of practitioner research or systematic enquiry around practice may also be diminishing.

Concerns about a growing lack of criticality are compounded by what the BERA-RSA Review (2014a, p.28) identified as "the instability and uncertainty of a more fragmented system" in which a lack of resources has, in many ways, created barriers to providing sufficient opportunities for trainees (and teachers) to both become fully research literate and to engage with research. The report continues by stating that:

> The position of research appears even more precarious as a result of changes to initial teacher education in England, which have destabilised staffing in many university departments of education and diminished funding streams for applied research (BERA-RSA, 2014a, p.28).

Schools as sole learning locations in ITT

As indicated above, the Carter Review (DFE, 2015a) states – unsurprisingly – that it found variability across ITT programmes. The foreword to the follow-up framework (DFE, 2016f), written by Stephen Munday, seems to position this variability as an issue to be solved by the imposition of a common curriculum. But, given the increasing fragmentation of both school and ITT systems, we would suggest that variability in primary ITT provision extends far beyond just the formal (stated) curriculum at policy levels. Within each programme, experiences of what it means to learn to be a primary teacher are increasingly structured by variable forms of partnership (see Chapter 2) and school-specific norms, pedagogies and curriculum practices. The situated forms of trainee learning found in school-led provision mean that important aspects of curriculum knowledge are now increasingly mediated through the particular learning practices enacted in particular school contexts, and by the teaching and mentoring of the differing ITT educators or mentors working within them. The extent of this diversification of ITT means that primary trainee experiences will now – more than ever - differ greatly across and between routes.

As discussed in previous work (McNamara et al., 2014), this variability raises concerns around the consistent quality of the learning experiences provided in the school workplace, particularly if learning is seen as happening largely through immersion in classrooms and fundamentally through experiential and an adaptive apprenticeship mode of training. This is far from the intellectual and developmental learning model that many other European countries consider necessary to prepare trainees for a teaching career in which they will encounter significant changes both over time and between different school contexts (European Commission, 2015). As this European Commission report shows, these European countries are moving to longer periods of ITT for intending primary school teachers, combining higher levels of academic studies (often to full masters levels) and longer periods of practical preparation (including more time spent in schools, but not necessarily with direct involvement in teaching).

In order to begin to achieve any semblance of developmental and intellectually-informed models of ITT through school-led routes, the design and implementation of high quality learning experiences within schools need to be carefully considered and informed by conditions and principles including:

> a communal learning culture within the school in which students are valued; a culture in which symbiotic relationships between the multiple discourses about theory and practice, teaching and learning can be facilitated; participation in a well-planned, rich and flexible variety of activities balanced between organisational and individual needs; the availability of time and space for quality learning opportunities and experiences to occur, and then further time to reflect upon them; and finally, teaching colleagues who undertake support roles and challenge learners; preservation of the trainee's status as a learner; and time for learning protected from other demands within the school (ibid, p.295).

These are high expectations for any school. As signalled in Chapter 2, whilst many primary schools may provide very good training environments, there are inevitable restrictions on the quality of provision available in others, not least because of their size, small staffing bases and sometimes remote locations. Across all phases of ITT some recent commentators (see, for example, Brown and Fisher, 2016) see past concerns about the adequacy of models of subject knowledge preparation in ITT now becoming more acute. It is very unlikely that *all* schools involved in school-led ITT at primary level will be capable of supporting the development of subject knowledge, alongside the acquisition of in-depth and meaningful pedagogical content knowledge, for a multi-subject curriculum. This situation poses clear threats to the quality of teacher subject knowledge and skills in the future.

Finally, training models based largely around the acquisition of local pedagogies and curriculum practices, and a 'what works here' approach to knowledge-generation, have inevitable restrictions in terms of the breadth and generalisability of that knowledge. The issue then becomes one of how trainees access wider curriculum knowledge and broader perspectives on teaching and teacher knowledge. Furlong (2013) sees the generation of this wider and more generalisable knowledge as one of the key roles of the university in ITT; without the guarantee of such university involvement in all ITT provision, where does ITT go for its intellectual authority?

4.4 - Summary

Our analysis of teaching and teacher education debates since 2008 leads us to conclude that the model of the teacher-as-technician – albeit a research-literate technician – now dominates declared government policy on ITT. But the structures of some school-led training schemes, notably School Direct Salaried, still instantiate principles of learning through immersion in classrooms and fundamentally apprenticeship modes of training; all of these elements support the endurance of the craft model. And all current ITT programmes are still premised on the ongoing assumption that more time in schools necessarily equates to better trainee learning and teacher quality; the shadows of a simplistic and instrumental model of teacher as craft worker therefore still haunt the system. The more developmental model of the teacher

as a rounded and full professional whose practical, craft knowledge and subject knowledge base is enhanced by a wide range of research and theoretical knowledge still persists in some contexts, particularly within HEI PGCE programmes awarding masters-level credits. Yet we would suggest that opportunities for the inclusion of such broad and deep knowledge within the ITT curriculum are diminishing.

The formal curriculum of primary ITT is now strongly aligned with the curriculum of primary schools (still often the National Curriculum); this school curriculum in turn is – overwhelmingly – focused on ensuring that pupil learning matches the 'age appropriate' requirements for national assessments at the end of Key Stages 1 and 2. In ITT, as in schools, what appears to be a broad, multi-subject curriculum is, in fact, a two-tier subject curriculum, with particular emphasis placed on the two core subjects of English and mathematics, to the detriment of other subjects and curriculum areas. Because of the emphasis on trainees having contemporary knowledge of all aspects of schooling by the end of their training, the ITT curriculum also has to include all recent initiatives and policies for primary schools. It is, therefore, reactive in its efforts to 'cover' all current and emerging curriculum emphases and initiatives occurring in primary schooling. Provision for 'behaviour management' is very prominent – some would argue disproportionately so – in the 2016 ITT curriculum framework.

Primary ITT in its current (predominantly, but not exclusively, postgraduate) model may strain to offer strong support for the development of the generalist, multi-subject class teacher role. There has been some growth of specialist subject routes in primary, particularly on postgraduate routes and in subjects such as mathematics and PE, but the generalist class teacher remains the dominant mode of teaching in primary schools. In preparing for this role, there is a danger that trainees will be unable to develop the types of deep and broad personal subject knowledge and pedagogical content knowledge that are needed to teach the multi-subject primary curriculum and the cross-curricular links embedded within it. This is a particular issue in training locations where embedded forms of the ITT curriculum provide only for trainee learning about 'coverage' and subsequent 'delivery' of primary subject and pedagogies. This approach will not be sufficient to support high quality teaching, particularly for trainees whose personal subject knowledge on entry to ITT is limited or who lack confidence in some curriculum areas. The breadth of subject knowledge, alongside the requirements for knowledge of new curriculum areas and initiatives introduced into primary schools, mean that "the current postgraduate curriculum strains to achieve the impossible" (Murray and Passey, 2014, p.500), whether it is taught in universities and/or schools.

The increasing alignment of primary ITT to the multiple demands of the school curriculum, together with rising levels of accountability and the shift to school-led routes, often now leaves less time, space and opportunity for the inclusion of the kinds of research-based knowledge recommended by the Cambridge Primary Review (Alexander, 2010), including the pedagogical implications of psychological, neuro-scientific and socio-cultural research on young children's learning and the crucial issues related to inequality, diversity and social justice. We also pose questions around the limited foundations which ITT now offers in encouraging a long-term career in teaching based on the development of critical thinking, research literacy and active engagement in research.

There is some potential for this situation to change, if the model of a research-informed ITT curriculum (DfE, 2015a; DfE, 2016f) is designed and implemented in ways which allow for expert, academic inputs. Of particular importance here may be the inclusion of phase-specific research with broad and enduring application, to understanding how primary school pupils learn in the repositories of 'relevant' research identified by the Carter Review. But we would argue that full access to and understanding of such research is best provided within universities, and should come from well-qualified academics both within Schools of Education and in other disciplines (for example, psychology and neuroscience).

Overall, we question how well current modes of primary ITT are able to prepare new teachers to be adaptable, flexible and creative about the future curricula and the numerous pedagogical shifts in schooling, which will inevitably occur during their teaching careers, as society faces increasing social, cultural and linguistic diversity and the fast pace of technological changes. Each of these factors will change the ways in which primary schools and teachers need to mediate the world for their pupils, and the ways in which they view knowledge production and reproduction and participate in knowledge dissemination. Teacher preparation for this future society clearly needs to follow a developmental and intellectually-informed model, which will result in the creation of primary teachers who are full and well-informed professionals, able to understand and critique the changing educational worlds in which they and their pupils will live and work.

5 - CONCLUSIONS AND RECOMMENDATIONS

5.1 - Conclusions regarding education policy and policy-makers over the period of the review

1. Education policy-makers' judgments are frequently based on ideology rather than robust scrutiny of the relevant research evidence and data. One such example is the drive towards school-led ITT, which is grounded in the highly questionable assumption that additional time in school will inevitably – and unproblematically – lead to better and 'more relevant' professional learning.

2. Education policy-makers have often failed to consider primary phase-specific characteristics and requirements in drawing up policy and developing strategy; most often both are envisioned with secondary ITT models in mind. This oversight is compounded by the significant lack of phase-specific research and other evidence available to support a nuanced understanding of the differential impact of policy decisions, such as the use of degree class to determine bursary eligibility, on primary ITT and schooling.

3. Education policy-makers have shown a marked lack of insight as to the likely impact of their reforms on the sustainability of ITT partnership, once a key principle of provision in England. Most teaching school alliances value partnership with HEIs, particularly the scholarship and reflective depth it affords and the support it offers to maintain the consistency of the quality of mentoring. However, increasingly, policy-makers do not

always appear to value the contribution of HEIs to ITT partnership, and official documents show evidence of a marginalisation of HEIs, signalling a diminishing of their role to that of transactional 'training provider'; at times redefining the word 'partnership' to mean just the school partners.

4. The acceptance, and even promotion, of mainstream professional (QTS-only) routes into primary teaching, disarticulated from any academic (PGCE/PGDE) qualification, is extremely troublesome. The apparent disregard that policy-makers afford to the added value offered by an academic qualification has implications for teaching quality, the development of a world-class school system, the status of the teaching profession in England, and the regard with which international colleagues hold the quality of English teaching qualifications.

5. A postgraduate qualification that equips trainees with not only practical skills but also intellectual capabilities and criticality is essential for future primary teachers. Most particularly, with an increasingly fragmented school system and disparate curriculum and pedagogic practices, there is a considerable need for beginning teachers to be more versatile in their skill set, knowledge base and pedagogic practices. For generalist primary teaching especially, given its particular challenges, an extended two-year PGCE or PGDE is crucial to facilitate the development of high quality specialist subject knowledge and skills.

6. The radical changes in ITT, and most particularly the speed with which they have been implemented, have undermined the short- and medium-term planning capability of training providers, particularly in HEIs. The changes have also led to increased casualisation of staffing and loss of capacity in key aspects of the primary curriculum and subject expertise, and also to HEI requirements for research engagement and performativity, with an ensuing cumulative impact ultimately leading to the vulnerability of individual programmes, whole education departments, and aspects of the educational infrastructure including academic literature and text books.

7. The professional identity, role and work patterns of the traditional HEI teacher educator is in transition, leaving many feeling insecure and undervalued, both in their institutions and across the ITT sector. The loss of capacity in HEIs is likely to have a significantly greater impact on (particularly small) primary schools who rely to a greater degree on collaborative structures, and many have less capacity to take on the more extensive roles in ITT required, especially mentoring work. Whether or not the new professional profile of the school-based teacher educator reflects an improvement in the quality and quantity of mentoring practices, it raises trainee expectations and sense of entitlement for school-based learning.

8. The principal effects of the policy changes outlined in the report mean that schools have become the key location both for learning and for the legitimation of knowledge in primary ITT. Academic rigour has been reduced and practical knowledge of how to teach, gained through immersion in the workplace, has become dominant. In some school-led and employment-based routes of ITT, schools are the locations for the vast majority of

trainee learning. As trainees spend more time in 'practice mode' than in 'prepare and reflect mode', the likelihood is that they will be inducted early into localised, school-specific practices and norms before they develop the criticality and reflective skills to situate local experiences in a wider context.

5.2 - Conclusions regarding recruitment, training allocations and routes, and trainee characteristics

1. Regional and sub-regional distribution of training places does not factor in the DfE allocations criteria, which means that where the national training market is not aligned to the local job market this can lead to both over-supply and shortage of teachers. The DfE has limited intelligence about local supply issues and in particular those in isolated rural areas where the primary recruitment challenge is greatest. To add a further complication, there are significant regional variations in projections of pupil numbers going forward.

2. Recruitment criteria, audit measures and league tables currently incentivise and privilege applicants with first class degrees. Although there is some evidence that enhanced bursaries do attract more applicants with good degrees, there is no evidence linking this to broader suitability to teach, and the evidence is equivocal, at best, as to whether this is likely to translate into teachers of higher quality; that is whether the bursaries offer value for money. For primary applicants, in particular, personal qualities and criteria such as breadth of curriculum coverage at A level may be more appropriate indicators of potential.

3. The on-line application process for postgraduate entry is highly complex, and marketing and recruitment information is bewildering, contradictory and leaves applicants ill-formed regarding important details. For example, it promotes QTS-only routes without informing applicants clearly that such awards will not qualify them to teach internationally or even throughout the UK. Constant changes in the applications process and allocations strategy has also frustrated and confused providers; the process is expensive to resource and does not offer stability or sustainability of provision.

4. Significantly more unqualified teachers are teaching in primary academies and free schools than in maintained primary schools. Furthermore, an increasing number of teachers are being trained through QTS-only routes. As noted above, this has implications for teaching quality, the status of the teaching profession in England, and individual teachers' professional mobility.

5. The overall proportion of ethnic minority primary trainees has remained static at about 8% (with wide regional variations) over the last 10 years, whilst the diversity of the British population has continued to increase and the non-white British primary school population has risen to 31% (with wide regional differences from Inner London with 825 to the North East with 12%). Such a lack of diversity has major implications for the primary school workforce.

6. Work has begun on quantifying the short-term cost-effectiveness of the various routes into teaching, and tracking their links with workforce data; both have afforded some nascent

and very tentative insights. Whilst both are interesting and worthwhile undertakings, the complexities of the underpinning theoretical conceptualisation means the measurement of factors such as 'cost' and 'benefit', are as yet far from robust.

5.3 - Conclusions regarding the ITT curriculum over the period of the review

1. The model of the teacher-as-research-literate-technician now dominates formal government policy on the ITT curriculum. But the enacted structures of some school-led training schemes, including the School Direct routes, still instantiate principles of fundamentally apprenticeship modes of training, achieved through immersion in classrooms. Such structures reinforce the endurance of an instrumental, craft-based model of ITT. A more developmental model of the teacher persists in some contexts, particularly within research-informed HEI undergraduate and PGCE programmes.

2. The formal curriculum of primary ITT is now strongly aligned with the curriculum of primary schools. It is therefore very full and often reactive in its efforts to 'cover' all current and emerging curriculum initiatives in primary schooling. Government guidance on what and how to teach in schools determines the primary ITT curriculum and in some curricular instances (e.g. the teaching of synthetic phonics) is effectively mandatory.

3. Within each primary ITT route, trainee learning is increasingly structured by variable forms of partnership and school-specific norms, pedagogies and curriculum practices. Increasingly, school-led provision means that curriculum knowledge is now mediated through the learning practices enacted in particular school contexts and by the teaching and mentoring of the differing ITT educators or mentors working within them. The extent of this diversification means that primary trainees' actual experiences of the ITT curriculum now differ greatly across and between routes.

4. The primary ITT curriculum, particularly on postgraduate routes, now strains to achieve the impossible in terms of all the areas it needs to cover. There are, therefore, diminished opportunities for the inclusion of broad and deep knowledge about primary schooling (including recent research from universities and other research institutions on the social, emotional and developmental contexts for learning, strategies for teaching, learning and assessment, and understanding of the wider discourses of childhood, curriculum, knowledge and skills).

5. There is some potential for this situation to change if the government approved model of a research-informed ITT curriculum is designed to allow for expert, academic inputs. Of particular importance here will be the inclusion of phase-specific research with relevance to understanding how primary school pupils learn.

6. Despite past concerns about the adequacy of subject knowledge preparation in primary ITT, little attention has been paid to this issue in recent policy. The predominant model of subject knowledge development, which informs most current thinking on this issue, still comes from secondary ITT. Consequently, understanding of how to develop multi-subject knowledge, including the creation of meaningful, cross-curricular links, during primary

ITT has barely been considered. The development of such understanding is particularly important because, for many trainees there is no neat 'mapping' between knowledge acquired through a first degree – or even through GSCE or A level studies – and the contents of the primary curriculum.

7. The development of primary specialist routes is still very uneven, perhaps reflecting on-going uncertainty around the place of such specialists in the primary workforce. Demand for specialists in particular subjects waxes and wanes with perceived needs or initiatives within the school sector, but mathematics remains a consistently high demand area over time. Current primary specialist PGCE courses are available in mathematics, special educational needs, PE, science and, in very limited numbers, computer science, music, arts and humanities. As noted above, current postgraduate ITT curriculum is over-full and does not easily support the development of specialists' skills alongside the traditional generalist training. Limited specialist routes (including mathematics, English, music and PE) exist on undergraduate courses.

8. A developmental model of ITT is necessary to equip all primary trainees to develop the necessary breadth and depth of knowledge (of subjects, curriculum areas and underlying issues influencing current models of schooling) *and* to future manage changes in our increasingly diverse primary schools over time and across settings. In contrast, some models of postgraduate ITT adopt an adaptive model which privileges performativity and local, practical knowledge and under-values critical reflection, theoretical knowledge, subject knowledge and allied pedagogical skills. This craft apprenticeship approach based on principles of 'what works here' is clearly inadequate for ensuring the development of creative and flexible primary practitioners.

5.4 - Recommendations

1. Education policymakers, when drawing up policy and developing strategy, should base their decisions on robust research evidence and always take into consideration primary phase-specific characteristics and requirements.

2. More phase-specific research should be undertaken on the effectiveness of primary ITT provision, the quality of the trainee outcomes and the impact of recent ITT reforms on primary schools. Research should also be funded into the development of robust measures of the efficacy, costs/benefits and value for money of the various routes into teaching in order to develop a longitudinal database to inform policy making in relation to the training of high quality teachers.

3. Authentic school and HEI partnerships, and mutual exchange of knowledge and expertise, should be reinstated fully as core principles for all ITT routes. Schools and universities both have essential and complementary roles to play in ITT provision.

4. Primary schools play a pivotal role in ITT by providing high quality learning environments for trainees over the long periods of 'practice' that all ITT routes now include, but there are issues of consistency, quality and capacity across the system. Further effort should be made

to ensure that all primary schools have access to effective support in order that mentors extend their knowledge and understanding of both high quality learning environments for adult learners and effective andragogical skills so they can, in turn, support enhanced trainee development and progress.

5. Strategies should be put in place to ensure the stability of the HEI ITT sector (e.g. by reinstating three-year allocations more widely) to restore its short- to medium-term planning capability and to enable HEIs to engage more fully with the schools sector as a full partner in supporting development work and sustaining education infrastructure and resources.

6. Policy makers should ensure newly qualified teachers are versatile in their skill set, knowledge base and pedagogic practices so that they are prepared for the increasingly fragmented school system and disparate curriculum and pedagogic practices. Importantly, a developmental approach that nurtures creative, flexible and reflective practitioners with critical thinking and practical theorising capability, deep subject knowledge and allied pedagogical skills is required rather than a craft apprenticeship that privileges performativity and local practical knowledge.

7. HEIs should be involved in the design and implementation of developmental models of ITT, to include improved models of primary mentor development. HEIs should also play a role in developing subject knowledge and research-informed pedagogical content knowledge, as well as in supporting trainees' research engagement and their access to wider curriculum knowledge and broader perspectives on teaching and teacher knowledge.

8. Attention should be given as to how the ITT curriculum can develop relevant areas of subject knowledge and pedagogical content knowledge for primary generalist (class) teachers in order that they can teach the multi-subject primary curriculum with in-depth knowledge and understanding of all subjects and the cross-curricular links between them.

9. A two-year PGCE/PGDE qualification should become standard for primary teachers, to include at the minimum substantive specialist subject and pedagogic knowledge training in all three core subjects and basic knowledge of all non-core subjects. It should also include recent research on the social, emotional and developmental context of, and strategies for, learning, teaching and assessment; understanding of the wider discourses of childhood, curriculum, knowledge and skill; and, research-informed knowledge of emerging areas in the education science (e.g. neuropsychology) within school contexts.

10. Specialist routes to include some single and multiple domain specialist courses in key subjects such as mathematics, SEN, science, PE and languages should be planned for, systematically paying attention to regional needs.

11. The Government should require academy and free schools to employ trained teachers. QTS-only routes, based on 'what works here' principles, should not be promoted as an adequate alternative to an academic qualification that aims to develop practical skills as

well as intellectual capabilities. Pursuit of these two policies will have negative implications for teaching quality, the development of a 'world- class' school system, and the status of the teaching profession in England.

12. Effort should be made to explain more clearly the complex primary ITT application process and the relative costs and consequences of the various routes. Most particularly, NCTL should explain clearly to potential applicants that QTS is accepted as a teaching qualification ONLY in England and Wales whereas a PGCE (with QTS) is accepted in Scotland and most countries internationally.

13. Government should redouble its efforts to recruit black and ethnic minority primary trainees in order to create a primary school workforce that is richly diverse and representative of the population. It should also be better informed and more responsive to regional and local workforce labour markets, particularly those of isolated rural areas.

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Final report. The key publication for both CPR and CPRT. Alexander, R.J. (ed) (2010) *Children, their World, their Education: final report and recommendations from the Cambridge Primary Review*, Routledge. 600 pp. Obtainable through usual commercial channels. http://cprtrust.org.uk/cpr/cpr-publications/final-report/.

Companion research volume. The original 28 research surveys, revised and re-edited with commentaries. Alexander, R.J. *et al* (ed) (2010), *The Cambridge Primary Review Research Surveys*, Routledge. 856 pp. Obtainable through normal commercial channels. http://cprtrust.org.uk/cpr/cpr-publications/companion-research-volume/.

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1. Harlen, W. (November 2014), *Assessment, Standards and Quality of Learning in Primary Education.*
2. Robinson, C. (December 2014), *Children, their Voices and their Experiences of School: what does the evidence tell us?*
3. Goswami, U. (February 2015), *Children's Cognitive Development and Learning.*
4. Pickett, K. and Vanderbloemen, L. (September 2015), *Mind the Gap: tackling social and educational Inequality*
5. Bourn, D., Hunt, F., Blum, N., and Lawson, H. (February 2016), *Primary education for global learning and sustainability.*
6. Jopling, M., and Vincent, S. (April 2016), *Vulnerable children: needs and provision in the primary phase.*
7. Burnett, C. (July 2016), *The digital age and its implications for learning and teaching in the primary school.*
8. Ainscow, M., Dyson, A., and Hopwood, L. (May 2016), *Primary schools responding to diversity: barriers and possibilities.*
9. Mansell, W. (May 2016), *The systemic reform of primary education since 2008: what does the evidence tell us?*
10. McNamara, O., Murray, J., and Phillips, R. (February 2017), *Policy and research evidence in the 'reform' of primary initial teacher education in England.*

11. Hall, K., Øzerk, K., and Curtin, A. (*February 2017), *Autonomy, accountability and quality assurance in primary education: England and other countries.*

* Expected date and provisional title.

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Four-page briefings on each of the above research reports accompany their publication. Read/download those already published at http://cprtrust.org.uk/about_cprt/cprt-publications/.

Primary Colours

Alexander, R.J. (ed) (June 2015), *Primary Colours: Westminster postcards from the Cambridge Primary Review Trust.* An edited collection of CPRT blogs published between July 2014 and June 2015. View/download at http://cprtrust.org.uk/about_cprt/cprt-publications/.

Primary Curriculum 2014 (CPRT with Pearson)

Primary Curriculum 2014: developing an outstanding curriculum in your school. 86-page Illustrated handbook to support the introduction of the new national curriculum. Contributions from Pearson, CPRT and eleven of the subject associations. Published by Pearson http://cprtrust.org.uk/about_cprt/cprt-publications/.

Other CPRT publications

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The Cambridge Primary Review Trust is the successor to the Cambridge Primary Review (2006-12). It aims to extend and build upon the Review to advance the cause of high quality primary education for all. It is supported by Pearson Education, based at the University of York, and chaired by Professor Robin Alexander.
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