Chapter 12
Professionalising Teacher Education: Evolution of a Changing Knowledge and Policy Landscape

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Introduction

Teacher quality has become the focus of intense policy activity in the past two decades across North America, Australasia, the United Kingdom and other European countries, as well as across Asia, Africa and South America. This has not always been the case. Prior to the 1980s, as long as sufficient numbers of teachers with basic qualifications were available, governments, politicians, bureaucratic and media commentary in many countries paid little attention to the field.[1] However, in an increasingly global and globalising world, results of international assessment programmes like the Programme of International Student Assessment (PISA) have focused attention on the quality of the teaching profession and subsequently teacher education policy.

Links between schooling and the economy are being made with teachers seen as key players in increasing a country's global competitiveness and neoliberal policies being seen as the necessary response such that globalisation and neoliberalism have become "intimately entwined" (Furlong, 2013, p. 30; see also Rizvi & Lingard, 2010). In this context, large-scale reform agendas are justified as essential to address what is perceived as a major problem for government, that is, how to raise student achievement so that the country can meet the challenges of globalisation and be economically competitive on the world stage. The resultant global education reform movement (Sahlberg, 2007) has seen increased standardisation, a narrowing of

[1] However, some authors have considered teacher education in Canada to be a 'policy backwater' as recently as the early 2000s (see Walker & von Bergmann, 2013).

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curriculum and greater accountability, accompanied to some degree by what Hoyle, back in 1982, saw as 'the turn to the practical' (Hoyle & John, 1982). As Marilyn Cochran-Smith (2005) reminded us, teaching and teacher education are inherently and unavoidably political.

In this chapter, we first examine a recent history of teacher education policy by drawing on the work of Peter Grimmett (2009) and Marilyn Cochran-Smith (2005) to frame the discussion. Teacher education policies and related governance structures in the past half century are discussed in three phases: (i) teacher education as training under somewhat benign government control; (ii) teacher education as learning to teach under institutional governance; and more recently, (iii) teacher education as policy in a governance context of professional self-regulation and deregulation. We discuss the current policy moment for teacher education and the organisation, governance and knowledge bases informing key policy responses to the perceived 'problem' of teacher education such as alternative pathways and tighter control and regulation. We also discuss the recent (re)turn to the practical, and finally examine two ways in which a professionalised approach to teacher education has been proposed. This involves work on assessing graduates against professional standards for teaching and work aiming to provide an evidence base of the effectiveness of teacher education.

Throughout the chapter, we focus on teacher education policy in the sociocultural–political contexts of the Anglophone world, using specific examples from the geographical contexts of North America, the United Kingdom (UK), and our own context, Australia. Our selection is not intended to discount or devalue the contribution that analysis of non-Anglophone contexts would bring to this chapter, but rather to enable a specific framing for our review and analysis within the space available. At times where it is appropriate, we make brief reference to parallel situations in other countries. We also review the research which has informed the knowledge base for teacher education, specifically as it has underpinned the policy decisions and relevant debates. Our work is framed by Dye's (1994) view of policy as "anything a government chooses to do or not to do" (p. 4) however we acknowledge that multiple levels of government are usually involved in the preparation of teachers and "policies governing teacher education are not developed and enacted at a single level by a single agency, but at multiple levels and by many actors, including federal, state, and local agencies" (Cochran-Smith, Piazza, & Power, 2013, p. 8).

Teacher Education as Training

Prior to the 1980s, in policy terms, teacher education was thought of as a 'training problem' (Cochran-Smith & Fries, 2005), with regulation and governance and the related teacher education curriculum focussing on acquiring effective skills for teaching. The research on teaching, such as it was at that time, aligned with the training agenda of acquiring skills for teaching. The schooling systems (often state,

provincial, or local area governments), being the major employers of teachers, controlled the supply of new teachers by regulating intakes into teacher preparation programmes to only the number of teachers they needed. They were then able to manage the new teachers' employment, induction and career progression. Teacher educators (who were usually former teachers) taught a curriculum driven by the demands of each government system.

Research on learning to teach is a relatively recent field. Historically, knowledge for learning teaching was simply drawn from research on teaching with the view that once it was determined what 'good' and/or 'effective' teachers did then teacher training was simply ensuring that teachers were taught to do these things. Indeed the very earliest research on teaching, the so-called 'teacher characteristics' research from the late 1930s to the 1960s, focused on identifying the teacher traits, qualities and behaviours thought to facilitate learning and a positive classroom climate. This resulted in notions of the good teacher as someone who was 'motherly' and 'warm' and caring – and like the discourse of the 'charismatic teacher' (Moore, 2004), such ideas still remain very powerful in both the public imagination and the ideals of preservice teachers, largely through representations of teachers in film and literature. As Moore says, these have:

> … less to do with education and training, and more to do with the inherent or intrinsic qualities of character or personality of the teacher, typically coupled with a deeply 'caring' orientation aimed very specifically at 'making a difference' to pupils' lives. (Moore, 2004, pp. 4–5)

Not surprisingly, this early 'teacher characteristics' research resulted in no definite description of the effective teaching, especially in terms of its relationship to student learning.

Research on teaching then focused on teaching effectiveness by examining what teachers did, examining their behaviours in the classroom. This 'process-product' research examined the relationships between measures of teacher behaviour (process) and measures of student learning (product) (Brophy & Good, 1986; Dunkin & Biddle, 1974; Gage, 1963; Good & Brophy, 1973). The basic tenet of process-product research was to,

> [D]efine relationships between what teachers do in the classroom (the processes of teaching) and what happens to their students (the products of learning) … Research in this tradition assumes that greater knowledge of such relationships will lead to improved instruction: once effective instruction is described, then supposedly programs can be designed to promote these effective practices (Anderson, Evertson, & Brophy, 1979, p. 139).

The findings of this research addressed such things as: quantity and pacing of instruction; whole group versus small group instruction versus individualized instruction; giving information; questioning the students and reacting to their responses; and, handling seatwork and homework tasks.

As a result of this research, preparation for teaching was framed as training in effective skills for teaching. Teaching was seen as a craft able to be gained through learning about and then practising these discrete skills said to comprise effective teaching, providing a "scientific basis for the art of teaching" (Gage, 1978). Practice

was integral to this approach and happened first through the use of selected demonstration schools or normal schools where student teachers observed and practiced regular 'demonstration lessons', and later, when initial teacher education moved into universities and teacher training colleges, in microteaching classes as new video-taping technologies were used to capture teaching moments for close and collective interrogation post-lesson (Allen & Ryan, 1969; Turney, 1975).

It was only in the 1970s that research on teacher education began to emerge as different from, but related to, research on teaching. In the United States (US) for example, a number of education laboratories and centres were established that focussed on examining different ways of training teachers and understanding the ways in which these approaches were effective or not. As a result, a number of teacher training kits and products were developed (Gage, 1978; Turney, 1975). This work was then linked to the competency based teacher education approaches of the 1970s which were promoted in government policy across many countries.

Teacher Education as Learning to Teach

The 1980s and early 1990s saw the emergence of a new focus on preparing a professional teaching workforce. As a result, teacher education came to be understood in policy terms as a 'learning problem' (Cochran-Smith & Fries, 2005) and a matter of 'professional learning' (Grimmett, 2009).

Some of the research on teacher learning derived from cognitive psychology, with emphasis on teacher subject matter and pedagogical knowledge. Other work drew on perspectives form anthropology and sociology, with a focus on culture and its role in learning and schooling. All of these approaches presumed that teaching was a cognitive and intellectual practice that was situated, complex, and uncertain. This meant that it was important for teachers to learn how to make decisions, apply strategies differently in different situations, and reflect on their work (Cochran-Smith, Feiman-Nemser, & McIntyre, 2008, p. 1085).

Beginning in the 1970s, researchers started to acknowledge that what teachers do is directed by what they think. This resulted in the introduction of more qualitative measures in research that asked questions like: What is happening here? Why do things happen the way they do in classrooms? More naturalistic, descriptive, interpretative studies involving ethnography and case study emerged. Subsequently, research began to study teachers' thinking and by the 1980s this focus was considered the dominant field of inquiry in research on teaching (Clark, 1988).

Researchers from Israel, the UK and Europe, North America and Australia aimed to document the cognitive processes and schemata that teachers used particularly in planning and also in decision making during the interactive phase of teaching (e.g. Ben-Peretz, Bromme, & Halkes, 1986; Calderhead, 1987; Clark & Peterson, 1986; Elbaz, 1983; Marland, 1986). Another focus of research at the time sought to distinguish what it was that expert teachers knew that differentiated them from novice teachers (e.g. Carter, Sabers, Cushing, Pinnegar, & Berliner, 1987). However, over

time, teacher thinking research was criticized for being much like the earlier process-product research in that it focused on a few characteristics of teacher thinking and searched for predictors of teaching effectiveness (Carter, 1990; Shulman, 1987). For example, Shulman's still-influential study of knowledge and teaching began with the following depiction of the limitations of this sort of knowledge:

Richly developed portrayals of expertise in teaching are rare. While many characterizations of effective teachers exist, most of these dwell on the teacher's management of the classroom. We find few descriptions or analyses of teachers that give careful attention not only to the management of students in classrooms, but also to the management of ideas within classroom discourse. Both kinds of emphasis will be needed if our portrayals of good practice are to serve as sufficient guides to the design of better education (Shulman, 1987, p. 1).

In line with the professional ambition of this work to illuminate a professional knowledge base for teaching and learning teaching, terms like 'teacher training' were rejected in favour of 'teacher education', and 'learning to teach'. And over time, researchers began to pay more attention to teachers' psychological contexts – their values, beliefs, motives, goals, and perceptions of the settings in which they were working. The research focus morphed into questions about the nature of teachers' knowledge and how it was acquired, held and used. In the 1980s, a group of researchers led by Lee Shulman at Stanford University in the US established an influential body of work in this area which examined the professional knowledge base of teaching as including:

- content knowledge;
- general pedagogical knowledge;
- curriculum knowledge;
- pedagogical content knowledge;
- knowledge of learners and their characteristics;
- knowledge of educational contexts; and,
- knowledge of educational ends, purposes, and values, and their philosophical and historical grounds (Grossman, 1990, 1994; Shulman, 1987; Wilson, Shulman, & Richert, 1987).

Pedagogical content knowledge became a particular focus of research into teachers' knowledge with preservice and inservice teacher education orienting itself to this "particular form of content knowledge that embodies the aspects of content most germane to its teachability" (Shulman, 1986, p. 9). This continues to be a specific area of investigation (albeit in new and evolved ways) by researchers across the world such as for example in the US (Loewenberg Ball, Thames, & Phelps, 2008; Thames & Ball, 2010), the Netherlands (Van Driel & Berry, 2012) and Australia (Loughran, Berry, & Mulhall, 2012).

At about the same time, research on teachers' personal practical knowledge emerged, a kind of working knowledge permeated by the personal and professional experiences of teachers' lives (Brown & McIntyre, 1988; Clandinin & Connelly, 1987; Elbaz, 1983; Sanders & McCutcheon, 1985). This research focussed on the personal understandings teachers have of the practical circumstances in which they

work. The premise was that teachers' knowledge develops from classroom experience and much of it is taken for granted in practice. As such, it is not easily articulated or codified by the teacher, and it is time bound, situation specific and intensely personal. Moreover, it was (and is) depicted and studied as taking the forms of case knowledge or knowledge of significant events, practical principles, personal theories, and images.

Growing interest in, and attention to, the meaning and practice of teaching as a reflective activity (Schon, 1983; van Manen, 1991a, 1991b) resulted in 'reflective practice' becoming a major focus in teacher education programmes (e.g. Elbaz, 1987; Gore, 1987; Hatton & Smith, 1995; Martinez, 1990; Schön, 1987; Smyth, 1989; Zeichner & Liston, 1987). In the programmes, teacher education students were engaged in activities that helped them reflect on their pre-existent beliefs and the effects of their professional practice on students and their learning (e.g. Groundwater-Smith, Brennan, McFadden, & Mitchell, 2001; Tripp, 1993). Even though disciplines like psychology, philosophy, sociology, and history were introduced to support and enable this critical reflection, there was still a need for reflection to focus on teaching methods and the practicum, resulting in the theory-practice binary in teacher education that exists to this day, positioning the practical skills developed during the practicum against the theory that is developed in the campus based components of the programme.

Reflection plays a key role in two other important research traditions in teacher education, the classroom-based, practitioner research models of action research (Kemmis & McTaggart, 1988; Noffke & Brennan, 1991) and self-study (Loughran, 2005; Loughran & Russell, 2002). The idea of action research in particular, highlights the role of the teacher as researcher. Unlike more formal research approaches conducted by academics and published in scholarly journals, action research is typically conducted by the teachers or groups of teachers themselves as a means of addressing real 'problems of practice' in practice as they study the effects of planned interventions designed to improve student learning. The knowledge that teachers and preservice teachers generate through action research, and through self-study processes (Loughran, 2005), is quite different from substantive propositional knowledge that can be codified and transmitted. This knowledge can be understood in 'how to' terms, or as procedural. Both forms of knowledge are considered important for teachers, however it was argued that a third form of knowledge needed to be accounted for if teachers were to be able to continuously deal with change. This was described as 'knowing from', or 'knowing 'from within' a situation or circumstance' (Shotter, 1993, p. xiii) or what Schon (1983) called 'knowing in action'.

In this period, as research on learning to teach was developing and maturing, teacher education was increasingly self-governed by the institutions responsible for the delivery of teacher preparation programmes. Teacher educators often had programmatic control over the way they prepared teachers and to a large extent were able to influence the political agendas related to professional learning and professional practice of in-service teachers. Teacher preparation was carried out in teachers' colleges and then, over time, in universities. In Australia, for example, teachers' colleges were part of the Colleges of Advanced Education (CAEs) sector which had

been developed in the late 1960s to prepare graduates for jobs of a more vocational nature than those from universities, usually in sub-degree qualifications. Their staff were not required to undertake research and were often paid less than university academics. This binary system had been modelled on the UK system with CAEs meant to complement universities.

Apart from offering some diplomas of education for secondary teaching, universities essentially remained "disconnected from teacher education which, in turn, became firmly embedded in training colleges which ranked as second tier institutions" (Aspland, 2006, p. 146). In 1988, the Federal Government, introduced major changes in Australian higher education. The previous binary system of tertiary education was replaced by a unified national system of higher education resulting in many higher education amalgamations and the granting of university status to institutions formerly known as CAEs. In this way, teacher education moved from the CAEs into universities en mass. While this was viewed by some as having the potential to raise the status of teacher education and lift it out of its vocational framing, others have suggested that these moves were motivated more by goals related to greater efficiency and economics (Dyson, 2005).

In many other countries, teacher education was also moving into the university sector. Bates argued that the incorporation of teacher education into universities in Australia created the opportunity "for universities in difficult times to strip assets from teacher education in order to support other initiatives" (Bates, 2002, p. 217). Similar observations were made in the US (Darling-Hammond, 1997; Tom, 1997; Zeichner, 1999). Issues quickly emerged as a result of the lowly status ascribed to teacher education inside universities due to market pressures (they were seen as 'teacher factories' responding to the demands of employers), to the side effect of the 'bad company' that teacher education was seen as keeping (it was women's work, involved a mass profession drawing from the working class, and the work was with children), and due also to the kind of work that teachers and teacher educators do (an extraordinarily difficult job that looks easy) (Labaree, 2004, 2005, 2008). A significant implication for staff moving from their teaching-only positions in teacher training institutions into the university domain was the requirement for research and scholarship that was invoked as part of the reward systems in universities involving promotions and the like (Hulme & Sangster, 2013), with many taking up and attempting to raise the status of practitioner research such as the action research and self-study methodologies described above.

In the 1980s, as these changes to teacher education were being institutionalised, there were already signs of increasing concern about the quality of education and schooling, as well as teachers. In the US, as early as the 1960s, two influential critiques of teacher education (Conant, 1963; Koerner, 1963) emerged highlighting what they saw as the low intellectual and educational levels required of teacher preparation programmes. They also noted that the evidence for the value of teacher preparation was weak. By the 1980s, reports such as 'A Nation at Risk: The Imperative for Educational Reform' (Gardner et al., 1983) highlighted and added to a growing view that American schools were failing. However, it was the work of Goodlad (1990), The Holmes Group (1986) and the The Carnegie Taskforce on

Teaching as a Profession (1986) that led to increased questioning of the quality of teacher education in the US; especially its value in addressing the economic and social needs of the country.

Australia's first nation-wide review of teacher education, the National Inquiry into Teacher Education (Auchmuty, 1980) highlighted a growing concern about the quality of teacher preparation. Among other things, the report recommended 4 years of study and minimum academic standards for teacher education students with no adjustment in attempts to respond to supply and demand issues. However, the government rejected all recommendations that required more resources and, in the end, the report and its recommendation were largely overtaken by the amalgamations of universities and teachers colleges and various cost-cutting initiatives in the 1990s.

Reports like these prompted a series of government reforms at all levels and governments and the public more generally began to notice teacher education. For example, in Australia, the 1988 federal government report 'Strengthening Australia's Schools' (Department of Employment Education and Training, 1988) was significant in that it highlighted the role of schooling in economic reform and signalled a new approach to commonwealth-state relations in schooling policy making – corporate federalism (Lingard, O'Brien, & Knight, 1993). In the UK, a national curriculum was introduced in England and Wales in an attempt to align and control teachers' practice (Whitty, 1989). The establishment of the Council for the Accreditation of Teacher Education (CATE) in England in the mid-1980s to inspect teacher education programmes and report to the Secretary of State for Education, signalled "a move towards central, top-down, political control of teacher education" and indicated a lack of trust in university based teacher educators and a move to a "full blown, school-based education system in England" (Gilroy, 2014, p. 623).

Growing criticism of teacher education, concerns about globalisation and economic competiveness, as well as national solutions (Cochran-Smith, 2008) characterise the current policy moment, which we now examine in the following section.

The Current Policy Moment: Teacher Education as a Problem That Needs to Be Fixed

In the past decade, there has been growing international agreement that the quality of any nation's education system is dependent upon the quality of its teachers and ultimately the quality of their preparation. This is not only agreed by organisations like the OECD (Organisation for Economic Co-operation and Development (OECD), 2007, 2005; Schleicher, 2011) and consulting companies (Barber & Mourshed, 2007), but also by an increasing number of researchers and educational leaders (Darling-Hammond, Barnett, & Thoreson, 2001; Darling-Hammond, Holtzman, Gatlin, & Heilig, 2005; Hattie, 2009). Governments throughout the world are attending to PISA results and applying scrutiny to teacher education (e.g. Cofre et al., 2015; Conway, 2013). This is resulting in changing statutory requirements for initial teacher education reflecting varying assumptions about teaching

and learning to teach, as well as desired regulation and governance procedures to enact policies and practices based on these assumptions.

These changing statutory requirements have often been informed by a flurry of reviews of teacher education prompted by populist and alarmist 'teacher education is failing us' claims particularly as they relate to perceptions of global competitiveness. In Australia, for example, in the last decade alone there have been no fewer than 40 reports on various aspects of teacher education and since the late 1970s there have been more than 100 reviews (e.g. Caldwell & Sutton, 2010; Committee for the Review of Teaching and Teacher Education, 2003; Ebbeck, 1990; Education & Training Committee, 2005; House of Representatives Standing Committee on Education & Vocational Training, 2007; Ramsey, 2000). In the most recent review, the Teacher Education Ministerial Advisory Group (TEMAG) concluded that while there are examples of excellent teacher education practice in Australia, significant improvement to the content and delivery of teacher education programmes is needed (Teacher Education Ministerial Advisory Group, 2014). The Australian Government's response to this report assures swift and decisive action to assure:

- stronger quality assurance of teacher education courses;
- rigorous selection for entry to teacher education courses;
- improved and structured practical experience for teacher education students;
- robust assessment of graduates to ensure classroom readiness; and,
- national research and workforce planning capabilities.

In the US, critics of teacher education have for some time claimed that "teacher education is broken and needs to be fixed" (Cochran-Smith et al., 2013, p. 7) beginning with the reports highlighted in the previous section. The 2004 report from The Teaching Commission a group of prominent leaders from business, government, and education highlighted the link to global economic competitiveness:

> The United States enters the 21st century as an undisputed world leader. Despite difficult challenges at home and abroad, we still have the world's strongest economy, and American business continues to inspire growth and development across the globe. But our nation is at a crossroads. We will not continue to lead if we persist in viewing teaching … as a second–rate occupation. (The Teaching Commission, 2004, pp. 9–10)

Government reports began to question the value of teacher education offered in colleges and schools of education. In 2003, for example, the US Secretary of Education's Annual Report suggested controversially that colleges and schools of education simply get in the way of good people becoming teachers and argued for ways to reduce the barriers to becoming a teacher among otherwise highly qualified individuals (US Department of Education, 2003). However, some within the academy have also been influential in setting the scene for government questioning the value of teacher education. For example, Arthur Levine, former president of Columbia University's Teachers College and long-time critic of teacher preparation in the US, suggested that "teacher education is the Dodge City of the education world. Like the fabled Wild West town, it is unruly and disordered" (Levine, 2006, p. 109). Criticisms have continued. In 2009, the Secretary of Education, Arne

Duncan, highlighted what he saw as the mediocre job schools of education were doing to prepare graduates to teach effectively (Duncan, 2009, October 22). The current US Department of Education's plan for teacher education accountability (US Department of Education, 2011, September) has moved the focus to outcomes and includes measures for judging the effectiveness of teacher education programmes by the achievement of the students that the graduates teach, the job placement and retention rates of preparation programmes, and satisfaction surveys of graduates and their principals. This has paved the way for advocacy groups like the National Council on Teacher Quality (NCTQ), which has no official standing as a regulator or accreditor of teacher education programmes, to become a powerful influence on policies via its national evaluations of teacher preparation which have so far focussed on reading, mathematics, assessment and student teaching, and its recent work with the US News & World Report to rank US schools of education based on evaluations of input measures of programmes (Greenberg, Walsh, & McKee, 2015). These reviews have generally concluded that a majority of teacher education programmes are inadequate in preparing the country's teachers. It is argued that this is not surprising given the motives for this work (Cochran-Smith et al., 2013; Fuller, 2014; Zeichner, 2011) and in an analysis of the 2013 report Fuller concluded that it,

> [H]as a number of serious flaws that include narrow focus on inputs, lack of a strong research base, missing standards, omitted research, incorrect application of research findings, poor methodology, exclusion of alternative certification programs, failure to conduct member checks, and failure to use existing evidence to validate the report's rankings. (Fuller, 2014, p. 63)

In England, the case for teacher education reform began under the Thatcher and Major administrations (Furlong, Barton, Miles, Whiting, & Whitty, 2000). In 2010, British Government Secretary of State for Education, Michael Gove, announced his intention to move preservice teacher education out of higher education and back into schools because of his belief that "Teaching is a craft and it is best learnt as an apprentice, observing a master craftsman or woman. Watching others, and being rigorously observed yourself as you develop, is the best route to acquiring mastery in the classroom" (Department of Education (Df,E), 2010). Murray and Passy (2014) suggested that English teacher education has been remarkably compliant to government dictates even to the specific teaching methodologies to be used. In Ireland, Conway (2013) reports that PISA scores "heralded a crisis of confidence in educational standards" and policy responses "characterized by standardisation, narrowed curriculum focus, and stricter accountability" (p. 51). However, a particularly powerful notion has been seen in many countries with the construction of a 'new professionalism' whereby teacher professionalism is reconstructed in policy terms so that notions of professionalism are more closely aligned with governments' reform agendas. In England for example, Furlong suggests that this "involves challenges to notions of individual accountability and ways of having teachers accept a more externally managed vision of their own accountability" (Furlong, 2013, p. 34) accompanied by decentralisation and devolution of funding and some

decision making to schools but high levels of accountability managed by the state (see also Whitty, 2014).

Moreover, this new professionalism is accompanied by neoconservative notions of knowledge, where the purpose of schooling is seen as the transmission and maintenance of agreed "cultural heritage" (Furlong, 2013, p. 41). In this context, teacher education is judged by how well it delivers "teachers willing and able to embrace this centrally defined, target-driven culture" (p. 40) and in this way, governments control the content of teacher education curriculum.

As we have noted, many of these reform agendas designed to address 'the problem of teacher education' have been driven by federal polices (providing a 'national solution' (Cochran-Smith, 2008) that seeks to efface local and contextual differences). While these are evident in the Anglophone countries we are focussing on here, national consistency in relation to regulation, teacher standards and accreditation of teacher education programmes is also evident in the South American countries of Argentina and Colombia (Cofre et al., 2015), in Singapore (Tatto, 2013), and increasingly so in Chile (Cofre et al., 2015; Tatto, 2013).

Notable exceptions to this approach can be found in Canada and Scotland. In Canada (Walker & von Bergmann, 2013), it is reported that "teacher education varies widely, reflecting the vast geography of Canada and the significant linguistic, cultural, and regional diversity across the country" (Howe, 2014, p. 588). Similarly,

> Scottish Education resisted and rejected policies emanating from an 'English' ideology, capitalized on respect for and influence of the GTCS, and successfully moved teacher education's base from autonomous colleges to high-status universities. At the core of teacher education in Scotland is the continuing desire for partnership-working amongst key stakeholders: local and national government, GTCS, schools, teacher education institutions, teaching unions, parents and pupils. (Gray & Weir, 2014, p. 569)

The result is a high degree of public and political trust in teacher education (Menter & Hulme, 2011). The most recent review of teacher education in Scotland (Donaldson, 2010) was entrusted to professional educators and was accepted in full by the government, and Scotland's General Teaching Council does "not allow those holding teacher qualifications earned on at least four of the school-based routes in England to be recognised and thus employed as teachers in Scotland" (Gilroy, 2014, p. 629). However, in many countries, teacher education is being positioned as a national 'policy problem' (Cochran-Smith & Fries, 2005) usually accompanied by an increasingly complex 'apparatus of certification and regulation' (Connell, 2009) that allows governments to point to their actions in responding to these apparent 'problems'.

> When teacher education is defined as a policy problem, the goal is to determine which of the broad parameters that can be controlled by policy-makers (e.g. teacher testing, subject matter requirements, alternate entry pathways) is most likely to enhance teacher quality. (Cochran-Smith, 2008, p. 273).

In this context, it is often argued that the most appropriate policies and practices for teacher education should be decided according to empirical evidence about their value-addedness in relation to student achievement (Kennedy, Ahn, & Choi, 2008).

In the US, this has developed into widespread value-added modelling approaches even though there are critiques suggesting that "because of the effects of countless exogenous variables on student classroom achievement, value-added assessments do not now and may never be stable enough from class to class or year to year to be used in evaluating teachers" (Berliner, 2013, p. 1; see also Ludlow et al., 2010; McCaffrey, Lockwood, Koretz, & Hamilton, 2004).

Positioning teacher education as a 'policy problem' promotes the view that teacher education can be 'fixed' through government intervention. As noted in the beginning of this chapter, concern about a nation's competitiveness as measured by international rankings like PISA has become a central concern for many governments around the world. Countries are looking to more successful others for education reform agendas in the pursuit of higher rankings, such that decontextualized policy borrowing is rife (Philips & Ochs, 2004). As a result, the approaches to fixing the problems of teacher education look remarkably similar across Anglophone countries, often characterised by rampant 'reform mania' and 'federal invasion' (Bullough, 2014). The policy debates have become increasingly polarized, posing the deregulation and marketization of teacher preparation against a defence of professionalism grounded in the academy (Mayer, Luke, & Luke, 2008). Those promoting deregulation argue there is little evidence of the value added by teacher education as it is currently practiced and argue for alternative pathways into teaching and support for new providers outside the academy. On the other hand, those calling for increased professionalism promote policies and practices involving professional self-regulation and semi-autonomy, arguing that the most important factor in student learning is the teacher and that therefore time and money should be put into professionalising the teaching workforce with high level qualifications and ongoing professional learning (For example, Darling-Hammond, 2000a, 2000b; Furlong et al., 2000).

In short, there are two major themes currently underpinning teacher education policy: standards and standardisation, accompanied by increasing involvement of national or federal governments as well as national professional bodies (for example: the National Council for the Accreditation of Teacher Education (NCATE) and more recently the Council for the Accreditation of Educator Preparation (CAEP) in the US, the Australian Institute for Teaching and School Leadership (AITSL) in Australia, the Teaching Training Authority (TTA) and more recently the National College for Teaching and Leadership (NCTL) in England). Standardised regulation aims to provide governments with the confidence that teachers are being prepared to provide an apparently effective education in the terms of policy goals. However, and seemingly at odds with increased standardisation, is a simultaneous notion of competitive diversification (choice) informing teacher education policy so that alternative routes into teaching are encouraged and supported – often with the premise that these pathways will attract more academically able students into teaching. Here the focus is on attracting potential teachers who already possess the subject content knowledge that schools need, and the assumption is made that other knowledge for teaching, such as curriculum and pedagogy, can be picked up on the job (for example, School Direct in England).

In the following sections, we examine these positionings and the reform agendas framing the policy discussions.

Alternative Pathways into Teaching

In the early 2000s in the US, a wave of conservative criticism of teachers and their work and of teacher education questioned the value of traditional teacher preparation (Finn & Kanstoroom, 2000; The Abell Foundation, 2001). This was in the context of the Bush administration's No Child Left Behind (NCLB) legislation which provided the context for challenging the value of teacher preparation by suggesting that subject matter knowledge and verbal ability were the fundamental determinants of high quality teaching. It was argued that subject matter knowledge is best acquired outside schools of education, while many other things could be learned 'on the job' (US Department of Education, 2003, 2004). This set the context for the growth of alternate pathways into teaching like Teach for America and the generously funded American Board for the Certification of Teacher Excellence which provided an option for prospective teachers to bypass traditional teacher education *en route* to certification by paying to take an online examination to be 'certified' as a teacher (Bullough, 2014). In 2004, the US government was quite clear about its intent,

> [T]he Department is committed to continuing to forge strong partnerships with states, institutions and national organizations, such as the American Board for the Certification of Teacher Excellence, the National Center for Alternative Certification, Teach for America and the New Teacher Project, to help to continue building momentum for change. (US Department of Education, 2004, p. 13)

Alternative routes like Teach for America continued to grow in the US despite the absence of conclusive evidence that demonstrates increased effectiveness over traditionally certified teachers (Decker, Mayer, & Glazerman, 2004; Glazerman, Mayer, & Decker, 2006; Xu, Hannaway, & Taylor, 2009). In a study comparing the academic achievements of students taught by Teach for America teachers to the academic achievements of students taught by regularly certified primary school teachers, students of Teach for America teachers did not perform significantly different from students of other under-certified teachers, and students of certified teachers out-performed students of teachers who were under-certified (Laczko-Kerr & Berliner, 2002). There are longer term problems with a programme that is designed as a form of altruistic 'national service' rather than a long term career aspiration and Teach for America acknowledges that retention rates are low (Vasquez Heilig & Jez, 2014). The storyline remains attractive to government, though, as it fits with their espoused need for inspirational teachers free from the shackles of formal qualifications.

In the UK, similar policies (Teach First and the School Direct programme discussed below) have enabled employers in England and Wales to employ teachers to learn 'on the job', without the constraints of having to recruit only qualified teach-

ers. In Australia, the $550 million federal government funded *Smarter Schools – Improving Teacher Quality National Partnership* (TQNP) programme 2009–2013 provided the context for the establishment and implementation of Teach for Australia and Teach Next borrowed from the global Teach for All scheme aimed at recruiting high flyers into the profession for part of their working lives.

While in most countries, programmes like Teach First and Teach Next attract only small cohorts, they have been symbolically significant in destabilising other models of initial teacher education. In England, for example, while less than 8 % of the allocation of initial teacher education numbers for the 2014–2015 academic year will be totally school based routes, it must be noted that the School Direct programme has forced the closure of some university courses in England (British Educational Research Association (BERA), 2014). However:

> What remains clear is, despite much political rhetoric to the contrary since the 1980s, the reality on the ground is that the dominant form of initial teacher education provision in England remains located in higher education institutions. (Gilroy, 2014, p. 630)

The recent Carter Review in England reinforced the importance of university study in teacher education, and stressed the importance of school-university partnerships in the development of teacher professional knowledge and evidence informed practice (Carter, 2015). Similarly, in the US, it is estimated that about three-quarters of all teachers still enter the profession through college and university programmes (National Research Council, 2010; Zeichner, 2014). However, there is continuing concern about the school settings that many of the un- and underprepared teachers teach in (e.g. Darling-Hammond, 2004a; Zeichner, 2009, 2014). Some countries like Ireland and Finland have not been impacted by moves to alternative pathways mostly because of the high demand for teacher education places (Conway, Murphy, Rath, & Hall, 2009; Evagorou, Dillon, Viiri, & Albe, 2015).

Tighter Regulation and Standards

Increasingly, the construction of standards for both students and teachers, accompanied by notions of control through various policy and implementation procedures, has been seen by governments as offering quality assurance. A standard set by a central agency or bureaucracy, to which others must aspire, is seen as the accountability mechanism for ensuring a good return on investment. Even though the development of professional standards for teaching may, as Connell (2009) suggests, "help protect education against abuses of the 'charismatic' image of the good teacher, where politicians in search of publicity throw untrained youngsters into very difficult teaching situations on the Hollywood principle that natural talent will triumph in the last reel" (p. 220), some argue that the current statements of professional standards portray teaching and teachers' work as little more than a technical

activity. In this way, they don't look much different from the competency statements of the 1960s and 1970s. The push for the installation and promulgation of teacher standards has been a worldwide phenomenon and "the thrust of central policy-making has resulted in the reduced professional autonomy of teachers through prescription, target-setting and evaluation techniques that strip away the subtleties and complexities of the teaching role" (Storey, 2006, p. 218).

It is true that governments usually drive standards and regulation agendas. They "hold the purse strings" and have a "responsibility to maintain an appropriate level of competence in the teaching profession" (Bates, 2004). As Australian policy both borrows from and lags behind that of other western nations, it has become a useful exemplar to illustrate the development of these ideas. The Australian Institute for Teaching and School Leadership (AITSL), for example was established by government in 2010 to oversee the development of national professional standards for teachers and principals, national regulation of teacher education accreditation, teacher registration, and national professional development for teachers and school leaders. This followed several decades of agency development, policy critique and refinement internationally, and a similar period of support for an Australia-wide accreditation of programmes for the professional preparation of teachers (Adey, 1998; Ingvarson, Elliot, Kleinhenz, & McKenzie, 2006; Ramsey, 2000) and a national standards framework for beginning teaching and the teaching profession (Australian College of Educators, 2003; Ingvarson, 2002a; Preston & Kennedy, 1995). The first tranche of standards development was dominated by the large state government school systems, and influenced by competency-based conceptions of standards characterised by long lists of duties, opaque language, generic skills, decontextualized performances, an expanded range of duties and weak assessments (Louden, 2000; Louden & Wallace, 1993). During the 1990s, a lot of work was done across Australia in developing professional standards for teaching but this was done in states working independently of each other, and they were often unrelated and used in differing ways (e.g. Australian Science Teachers Association, 2002; 2006; Mayer, Mitchell, Macdonald, & Bell, 2005; Ministerial Council on Education Employment Training and Youth Affairs, 2003; Standards for Teachers of English Language & Literacy in Australia (STELLA), 2002). So, while statements of professional standards are usually intended to create a shared and public 'language of practice' that describe how the specialised knowledge of teaching is used in practice and also be a vehicle for assessing and judging professional activity (Yinger & Hendricks-Lee, 2000), the standards landscape in many countries like Australia has been somewhat fragmented and uncoordinated. Many constituencies within the profession have attempted to articulate effective professional knowledge and practice at various junctures along the professional learning continuum and related career transition points, and to control and regulate their slice of the profession.

(Re)turn to the Practical: A Theory of Practice for Teacher Education

A traditional model of teacher education is fairly standard across many countries, for example,

- a four (3, 1, …) year course structure centred on sequenced subjects devoted to 'foundations', teaching and school subject content, curriculum and teaching methods and some mix of practice teaching;
- formal, bureaucratic relationships between employers (schools) and teachers, typically tempered and mediated by one or more university staff who develop collegial ties with school personnel; … (Smith & Weaver, 1998, p. 32)

This is reflected in South America (Cofre et al., 2015), Europe (Evagorou et al., 2015), China (Liu, Liu, & Wang, 2015) as well as the Anglophone countries being focussed on in this chapter. However, teacher preparation in Finland is 5 years leading to a Masters degree and involves a significant inquiry component (Conway et al., 2009; Evagorou et al., 2015; Tatto, 2013). In Africa, post-independence education systems are heavily influenced by their country's colonial history, the most noticeable feature being the lingua franca adopted. This and the growing school-age population mean the demand for teachers is high. In many African countries, "pre-service elementary teacher education takes place at different institutions to middle and high school teachers. In most cases, elementary teachers are trained in institutions known as colleges of education which are not regarded as tertiary institutions. Academic requirements to enter these institutions are lower than that of universities" (Ogunniyi & Rollnick, 2015, p. 71). They earn diplomas while high school teachers usually earn 4 year degrees. However, in South Africa, "since 2007, all teacher education has been carried out at Universities either through a 4-year Bachelor of Education qualification or a 3-year bachelor's degree and postgraduate certificate. There is no difference in the level of qualification between teachers at different levels" (Ogunniyi & Rollnick, 2015, p. 71).

Even though classroom experiences in schools (variously called the practicum, professional experience, practice teaching, and student teaching) have "formed a key component of what was intended to be an integrated package that balanced theory and practice" (Vick, 2006, p. 194), a theory-practice divide has been of interest to both policy makers and researchers alike with reviews of teacher education regularly highlighting the importance of practice in school settings (often accompanied by calls for less theory), and indeed more time actually practicing teaching in schools. Often this is in the form of recommendations to increase the numbers of days in schools with the assumption that,

> More days in schools … would produce better teachers—it was simple. There was nothing at all significant in such numbers, and there has never been research to indicate how many days 'practice' is optimum for student teachers: there was only a belief in a bureaucratic office that 120 is better than 80, and twice as good as 60. (Reid, 2011a, p. 384)

The perceptions of problems with the practicum or professional experience or student teaching are ongoing. Le Cornu and Ewing (2008), Vick (2006) and Clarke, Triggs, and Nielsen (2014) have all traced the idea of school-based teaching practice in initial teacher education, where student teachers have opportunity to put the newly-acquired knowledge from their university studies into practice with guidance, supervision and evaluation of their capacity for successful classroom teaching from more experienced colleagues. However, the relationship between university 'supervisors' and school-based 'associates' or 'cooperating' teachers is produced as unequal even in that terminology.

The movement of teacher education into the university sector saw the expertise of practising teachers displaced, so that they were *only* 'associates' to the real teacher educators in the universities, simply 'cooperating' with the external agenda rather than co-producing forms of school-based teacher education that could connect school and university agendas. Similarly, although changes in relationships and terminology that have seen school-based partners in initial teacher education named as 'mentor' teachers (Le Cornu & Ewing, 2008) position them as experienced, supportive and agentic, it still does not designate them as equal to university teacher educators.

One response to this has been the recent moves back to a version of the 'apprenticeship' model of teacher education, most notably in England, where a variety of School-Centred Initial Teacher Training (SCITT) programmes mean that new teachers can apply to schools and be selected to learn on the job, with universities taking a much smaller role in initial teacher education that is 'school-led', but still earns a 1-year Post-Graduate Certificate in Education (PGCE). *School Direct* courses are similar 1-year programmes designed by groups of schools – with a university or a SCITT – based on the skills they see as needed for in a newly qualified teacher. Other programmes such as *Troops to Teachers* for ex-Service personnel, *Researchers in Schools* for academics who wish to become qualified to teach all, or the *Teach First* programme all follow similar models.

While such structural separation of education theory and knowledge from practical experience may address short term employer goals of 'teacher readiness', it does not provide a strong support for the continued educational development of teachers.

> What is needed is an integrated theory: one that acknowledges all of the sources of knowledge that contribute to practice and then examines how these interact to create particular teaching practices. (Kennedy, 2002, p. 369)

Research exploring ways in which such an integrated theory for teacher education might be developed has expanded in recent years (Ball & Forzani, 2009; British Educational Research Association (BERA), 2014; Darling-Hammond & Baratz-Snowden, 2007; Furlong, 2013; Grossman & McDonald, 2008; Reid, 2011a). It reflects a growing awareness of the need to rethink what is meant by the often taken-for-granted term 'practice', thereby participating in what has been described as the 'practice turn' in contemporary scholarship (Schatzki, Knorr-Cetina, & von Savigny, 2001). Much more than simply a 'turn to the practical' as a way to recover

lost benefits of both the 'apprenticeship' and 'training' models in initial teacher education, a theoretical attention to practice suggests a larger radical re-assessment of the role and significance of practice theory and philosophy (Schatzki, 2002). Practice is understood as the organisation of complexly interrelated activities, directed at achieving particular purposes. In such a view, teacher education is conceived as a practice aimed at producing novice teachers, appropriately trained and newly graduated, who are ready to take on the professional work of teaching in school settings, and who, though continued attention to practice, will become increasingly expert as they transition into the profession.

Like those in many other professional practice fields, a growing number of teacher education theorists are engaging with the promise that practice theory as a conceptual framework for teacher education provides an opportunity to reconnect with the practice field of teaching as the object of study for teacher education (Reid, 2011b). Building on the work of Shulman, for instance, US researchers have proposed a two-fold focus for teacher education reform.

> A stronger connection to research on teaching could inform the content of teacher education—what gets taught and how—while a stronger relationship to research on organizations and policy implementation could focus attention on the organizational contexts in which the work takes shape. (Grossman & McDonald, 2008, p. 185)

Such a practice theoretical framework for 'teaching teaching' does not turn back to one preferred model, as has been the case with the recent SCITT 'apprenticeship' approaches that have taken hold in England, where the disconnection and compartmentalization of curriculum and pedagogy across university and school teacher education settings remain problematic (Furlong, 2013). Instead, it proposes rethinking teacher education so that it can work effectively to address what Grossman and McDonald (Grossman & McDonald, 2008, p. 192) described as "the organizational complexity of teacher education", involving attention to the different pedagogical approaches research has shown as useful in each model. This means taking full account of:

> the importance of viewing teaching and learning as embedded in multiple contexts, such as the school, the district, the state, and national policies on teaching and learning. (Grossman & McDonald, 2008, p. 191)

This requires a curriculum shift, in effect, from the current convention of foregrounding 'knowledge' in initial teacher education to foregrounding the complex integrative capacity of 'practice'. In the US this has led to the reconceptualization and redesign of some initial teacher education curriculum around attention to 'core practices' (Grossman, 2011), or 'high leverage' practices (Ball & Forzani, 2009) that are systematically studied, analysed and practised by student teachers as realisations of educational theories and system regulation or policies. This includes forging connections across the curricular divide between foundations and methods

in course structures as well as between university-based coursework and school-based professional experience.

The current turn to practice is therefore much more than moving a course to a school setting, which is how many policy enactments seem to frame it. It requires a careful attention to developing deep knowledge of students and of the social and cultural contexts of teachers' work as well as the relational skills for working in complex institutional settings (Zeichner, 2012). It calls for a rethinking of the epistemology of teacher preparation and the development of new forms of shared responsibility for preparing teachers among colleges and universities, schools, and local communities (Zeichner, Payne, & Brayko, 2015).

Constructing a Professionalization Agenda

In addition to building a new theory of practice for teacher education, many within the academy and the teaching profession have responded to what they see as the increasing de-professionalization of teaching and teacher education. They look to other professions, argue for more 'professional accountability', and propose a self-regulated teaching profession that would take collective responsibility for ensuring that all those permitted to teach are well prepared, have and use all available knowledge to inform professional practice and maintain a primary commitment to clients (i.e., students and the public) (Burbules & Densmore, 1991; Darling-Hammond, 1989, 1990; MacBeath, 2012; Ramsey, 2000). Comparisons are made with other professions that 'self-regulate'. Sometimes this is in terms of status (e.g. Hargreaves et al., 2006) or salaries with links to professional certification (e.g. Ingvarson, 2002b). Shulman (1998a, 1998b) has argued that a profession comprises a community that is committed to ensuring that its members individually and collectively develop the capacity to learn from experience, so they can serve the needs of their profession. He argued that that there are six commonplaces associated with a profession – service, theory, practice, judgement, experience, and professional communities of practice.

A professional accountability model represents a 'policy bargain' the profession makes with society, whereby greater (self) regulation of teachers is guaranteed in exchange for deregulation of teaching (Darling-Hammond, 1989, 2004b; Mayer, 2005). In this framing, teacher education accountability is located at the point of graduation from a teacher preparation programme and focuses on the quality of beginning teachers. Engagement with professional standards for graduating teachers and reliable ways of evaluating the capacities of beginning teachers through the provision of evidence of their professional knowledge and practice are the core features of such a self-regulation agenda.

Notwithstanding the critiques of professional standards and the related regulatory mechanisms outlined above, Linda Darling Hammond and her colleagues have argued for some time that framing teachers' work in terms of what they should

know and be able to do is a valid way of capturing the complexity of teachers' work (e.g. Darling-Hammond & Bransford, 2005). The challenge is to ensure that any statements of professional standards for teaching reflect teaching as deliberative intellectual and integrative practice, as social, collaborative and collegial work, and as emotional labour (Isenbarger & Zembylas, 2006). As Connell (2009) pointed out, the lists of current standards do not appear to come from any systematic view of Education as a field of knowledge, nor a reflection of "teaching's daily reality [as] an improvised assemblage of a very wide range of activities" (p. 219).

Many statements of professional standards seem to simply reflect the collective wisdom of whoever is invited to develop and then comment on them at a particular point in time. There is sometimes reference to research on effective teaching, but rarely are the standards subjected to rigorous research interrogation over time. Moreover, a market-oriented problematisation of teacher education which defines 'effective' as what the school systems need or want at this particular point in time means that "What was 'working' yesterday is the guiding principle for what 'shall be working' tomorrow, and hence, the past practice of teaching orients and determines the future generation of teachers" (Simons & Kelchtermans, 2008, p. 289). Those in the academy argue that this needs to be challenged. Moreover, rather than getting caught up with the notion of teacher as an entrepreneurial individual constantly rising to 'the challenge' (Connell, 2009), it is argued that professional standards for teaching must be based on a close examination of the work of teachers, their professional judgments, and the practice of teaching in relation to student learning (Darling-Hammond, 2013).

In the US recent reform has focused on high-leverage teaching practices and routines that are believed to support high-quality student learning. These are intended to be more focused and fine grained than the list of competencies and general standards used in the past (Zeichner, 2012) and support teaching professionalism (Ball & Forzani, 2009) especially if they include attention to teachers' adaptive expertise (Hammerness, Darling-Hammond, & Bransford, 2005). As such they inform the curriculum of teacher education programmes to prepare teacher candidates to know and do these things.

Evaluating Teaching

While professional standards for teaching are now embedded into many regulatory systems, entry into the profession is often regulated by authorities still using programme design or input models to make decisions about teacher credentialing and readiness to teach. Authentic assessments of the actual professional practice of graduating teachers in the workplace, incorporating multiple measures, and focussing on judging the impact of teachers on student learning, are not always used as a means to assess graduate readiness to teach (Mayer, Pecheone, & Merino, 2012). Portfolio assessments (both *structured* or *unstructured)* are sometimes used in

teacher preparation programmes usually as a capstone assessment (St. Maurice & Shaw, 2004).

As Zeichner suggested that,

> [o]nce the activities of teachers are identified, the curriculum of teacher education programs should focus on preparing teacher candidates to know and do these things. Teachers should be evaluated on how well they know and do them rather than on the completion of certain required courses. (Zeichner, 2012, p. 377)

This means providing opportunities for preservice teachers, at point of graduation, to provide evidence of their effectiveness as beginning teachers. By assuring accountability at point of graduation, teacher educators will be able to make decisions about the most appropriate teacher education curriculum to achieve their goals and not have 'yesterday's' structures, content, and processes dictated in policy regulations. Currently, the means used to judge graduates as meeting the standards are not always reliable, e.g., tick a box approaches to a list of competencies; proxies like passing university assignments; and the subjective comments of supervising teachers. Indeed, some of the ways in which judgments are made about graduate teacher capability and the value of teacher education are "not particularly helpful and can be harmful" (Darling-Hammond, 2013, p. 148).

One example of a structured portfolio that has been used for high stakes credentialing decisions in the US is the Performance Assessment for California Teachers (PACT). PACT represents a multiple measures assessment used for initial teacher registration in California. It is designed to collect evidence of preservice teachers' content and pedagogical knowledge as well as their higher-order thinking skills (Pecheone & Chung, 2006). It assesses "the planning, instruction, assessment, and reflection skills of student teachers against professional standards of practice" (Darling-Hammond, 2006, p. 121). The tasks "are designed to measure and promote candidates' abilities to integrate their knowledge of content, students and instructional context in making instructional decisions and to stimulate teacher reflection on practice" (Pecheone & Chung, 2006, p. 24). This has developed into the Teacher Performance Assessment (TPA) now being used across many states in the US. However, while the original intention of this was for teacher educators to control the accountability agenda, it has been argued that moving this to scale and including Pearson Education Inc. has compromised this agenda (e.g. Cochran-Smith et al., 2013).

In Australia, Deakin University drew on the PACT work to design, implement and evaluate what is now known as the Authentic Teacher Assessment (ATA) (Allard, Mayer, & Moss, 2014; Dixon, Mayer, Gallant, & Allard, 2011). In the ATA, preservice teachers demonstrate their professional decision making and impact on student learning over an extended period of time in schools involving a series of lessons working towards a particular objective or set of objectives. Like PACT, the ATA requires candidates to submit a structured portfolio including teaching plans, teaching artefacts, student work samples, video clips of teaching, and personal reflections as well as commentaries in relation to decisions they make about planning, teaching, and assessment over time.

In these ways, 'readiness to teach' is demonstrated by doing the actual work of teachers over time in the workplace, and is backed-up with evidence. Darling-Hammond argues that "[t]he greatest benefits will be secured where multiple measures of learning are combined with evidence of practice" (Darling-Hammond, 2013, p. 149). An effective teacher evaluation system should be "based on professional teaching standards [and] include multifaceted evidence of teacher practice, student learning, and professional contributions that are considered in an integrated way" (Darling-Hammond, 2013, p. 153).

However, even comprehensive capstone assessment incorporating multiple measures, like PACT and ATA do not and cannot capture all dimensions of teachers' work. Essentially, they only capture teachers' individual activity in the classroom as they work to enhance the learning of their students. But all teachers work as part of a larger system and workforce. As Connell (2009) reminded us, "whether an individual teacher appears to be performing well depends a great deal on what other people are doing … It is often the group of teachers, and the institution they work in, that are effective or not effective" (p. 222). Thus, the challenge is to capture the collaborative and collegial dimensions of teachers' work in any system of teacher evaluation (Darling-Hammond, 2013).

Researching the Effectiveness of Teacher Education

Internationally, fuelled by the 'problem of teacher education' as discussed above, successive inquiries have recommended large-scale investigations to provide evidence about the effectiveness or value of teacher education. Nearly 30 years ago, Zeichner (1987) noted the need for research that would establish the particular contribution of initial teacher education to teacher quality, as distinct from other influences, as well as for research that could identify whether particular approaches promoted particular capacities in teachers. More recent reviews have regularly concluded that research in the field of teacher education is under-developed, under-theorised, fragmentary and parochial, with little longitudinal, cumulative or meta-analytic work that could be used to produce oversight and clear direction for policy and practice (British Educational Research Association (BERA), 2014; Cochran-Smith & Zeichner, 2005; Menter, Hulme, Elliot, & Lewin, 2010; Murray, Nuttall, & Mitchell, 2008; Sleeter, 2014). However, major grants are rare in the field of teacher education and findings from the smaller, often unconnected studies that characterise the field do not produce the convergent findings policy makers are seeking:

> The scope and scale of the research can be attributed to a variety of factors, including the relative newness of teacher education research as a legitimate field of empirical investigation, the relatively small-scale funding that teacher education research is able to attract, and a recognition within the field of the importance of investigating aspects of one's own practice in order to both understand and improve teacher education pedagogy. (Murray et al., 2008, p. 235)

The prevailing view is that this body of work has not and does not systematically build a knowledge base for teacher education. There are some US studies that have headed further towards these ends, claiming evidence to show that teacher education does make a difference:

> … teachers who have had more preparation for teaching are more confident and successful with students than those who have had little or none. Recent evidence also indicates that reforms of teacher education creating more tightly integrated programs with extended clinical preparation interwoven with coursework on learning and teaching produce teachers who are both more effective and more likely to enter and stay in teaching. (Darling-Hammond, 2000a, p. 166)

Although these findings have influenced the design and structure of programmes around the world, the results have not served to answer or halt criticism of initial teacher education (Boyd, Grossman, Lankford, Loeb, & Wyckoff, 2009; Boyd et al., 2006; British Educational Research Association (BERA), 2014). In this absence, attention turns to the quality of the entrants into teacher education and control of the content of the teacher education curriculum as proxies for ensuring quality teachers for the profession.

After a 4-year review of preservice teacher education research in the US by the American Educational Research Association's Panel on Research and Teacher Education, Zeichner concluded:

> The main issue in our view is to develop a research program in teacher education that can address the variety of questions that investigators seek about teacher education and its connections to the various kinds of outcomes important to society. (Zeichner, 2005, p. 738)

The panel pointed out that there was little evidence of a shared research programme linking teacher education with professional learning and impact on student learning outcomes. Without a substantive research base to support decisions around the best curriculum, pedagogy, theory and practice for teacher education, it is difficult for the field to defend itself against criticism. As Grossman (2008) has noted, a significant problem for teacher education relates to the fact that "as researchers and practitioners in the field of teacher education, we seem ill prepared to respond to critics who question the value of professional education for teachers with evidence of our effectiveness" (p. 13). Grossman goes on to claim that "the ability of a profession to sustain its jurisdiction lies partly in the power and prestige of its academic knowledge" (pp. 53–4), highlighting the fact that, in the US as in the rest of the world, research in teacher education currently lacks both. As she argues:

> To respond effectively to critics, university-based teacher educators must be able to prove credible evidence of the effectiveness of their practice in preparing teachers. (Grossman, 2008, p. 14)

The recent British review of research and the teaching profession (British Educational Research Association (BERA), 2014) stresses the "urgent need" (p. 37) for broad-based nation-wide research that will monitor the effects of the different teacher education policy reforms currently being implemented across the UK on student learning outcomes, teachers' learning and the improvement of schools.

Some researchers have explored questions of effectiveness by following teacher education graduates into the classroom to examine what they are doing and what the students are learning. The Teacher Pathways Project in New York City in the US, for example, (Centre for Education Policy and Analysis, 2012) is investigating different pathways into teaching, the characteristics of those programmes and the impact of those characteristics on a range of things, including student achievement in reading and mathematics (Boyd et al., 2006, 2009). Work in the Australian context (Louden, Heldsinger, House, Humphry, & Darryl Fitzgerald, 2010) has identified only that it is important to recruit well-qualified entrants to the teaching profession. In the Netherlands, Brouwer and Korthagen (2005) conducted a 4.5 year longitudinal study using quantitative survey data as well as in-depth qualitative data designed to evaluate effects of a programme intended to improve the integration of theoretical and practical learning. In the UK, the 6-year longitudinal *Becoming a Teacher* (BaT) study (Hobson et al., 2009), set out to explore beginner teachers' experiences of initial teacher training (ITT), induction and early professional development in England, including: (i) the reasons that some did not complete their ITT, others completed but did not take up a teaching post, and others took up a teaching post but subsequently left the profession; and, (ii) the extent to which beginning teachers' experiences of ITT, induction and early career progression, and their retention or attrition, were subject to variation relating to the ITT route that they followed. And while not explicitly focussing on the effect of initial teacher education, the 'Variations in Teachers' Work, Lives and Effectiveness' (VITAE) project (Day, Stobart, Sammons, & Kington, 2006), focused on identifying variations in different aspects of teachers' lives and work and examining possible connections between these and their effects on pupils as perceived by the teachers themselves and as measured by value-added national test scores (Day, Kingston, Stobart, & Sammons, 2006; Day, Stobart et al., 2006). What most of these studies highlight is the complexity of studying the effectiveness of teacher education, which is contrary to the linear, cause-and-effect framing of teacher education and beginning teacher effectiveness usually being sought by policy makers.

More recently, Sleeter's analysis of almost 200 articles published in 2012 in leading international teacher education journals "did not see evidence of an emerging, shared research program designed to inform policy" (Sleeter, 2014, p. 151). As she concluded:

> The problem … is that the weight of the research, being fragmented, often narrowly focussed, and usually not directly connected to a shared research agenda on teacher education, does not position teacher educators strongly to craft an evidence-based narrative about teacher education that might counter policies and reports like the NCTQ's.[2] (Sleeter, 2014, p. 152)

She suggests that teacher education organisations should collaborate and develop a research agenda that links teacher education with its impact on teachers and on students, focus more on preparation for and rewarding of research that contributes

[2] A 2013 Report from the National Council on Teacher Quality concluding that preservice teacher education is mired in mediocrity and does not improve student learning.

to building a knowledge base, and emphasise collaboration amongst researchers. Similarly, the Report of the *BERA-RSA Inquiry into the Role of Research in Teacher Education* highlights the "need for more research that looks systematically at the effectiveness of different types of initial teacher education" (British Educational Research Association (BERA), 2014, p. 37).

The BERA-RSA Report also notes that self-improving education systems are ones in which teachers are research literate and have opportunities for engagement in research and inquiry. This requires teacher researchers and the research community to work in partnership (Donaldson, 2010), and work to demonstrate the value of situated and contextualised inquiry into teaching and learning. While large-scale empirical studies employing mixed-methods approaches will go a long way to helping teacher education respond to critics with evidence of effectiveness, there are other measures teacher educator researchers can take with the case study and ethnographic work that typifies a lot of teacher education research. As Zeichner (2005) argued, the challenge may instead be met by systematically connecting with other studies that have asked similar questions and conducting research which builds on its own findings.

Conclusion

In this chapter we have mapped the history, issues and research developments shaping policy and knowledge in teacher education using examples from Anglophone countries as reflective of directions set in the international context. In examining the historical positioning and governance structures of teacher education, we identified three overlapping phases of policy and knowledge structures that have shaped teacher education: a phase of teacher education as training under government control; a phase where teacher education was governed by single purpose institutions; and, a phase where teacher education policy is now reactive to concerns about that country's global economic competiveness. Teacher education is now positioned as 'a policy problem' with governments increasingly regulating requirements for the preparation of teachers and work in the teaching profession that are informed more by political and economic imperatives than they are by a research-informed knowledge base about learning teaching and (school) student learning. Current policy debates around teacher education governance present increasingly polarized agendas positioning the deregulation of university-based teacher preparation on the one hand against a defence of professionalism grounded in the academy on the other.

As part of professionalising teacher education, we argue that teacher educator practitioners and researchers are engaging with the questions being asked about what graduating and beginning teachers should know and be able to do, and how this can be demonstrated. Perhaps more importantly, we have examined how teacher educators are attempting to speak back with research-informed knowledge to the questions being asked about the value of teacher education and its impact on teacher learning for student learning. This work must continue and expand if it is to inform

and be informed by policy. It will involve both a return to theorisations of practice and the need for contextualised research to provide a shared conceptual basis for the ongoing development and renewal of policy and knowledge in teacher education.

References

Adey, K. C. (1998). *Preparing a profession: Report of the national standards and guidelines for initial teacher education project*. Canberra, Australia: Australian Council of Deans of Education.

Allard, A., Mayer, D., & Moss, J. (2014). Authentically assessing graduate teaching: Outside and beyond neo-liberal constructs. *Australian Education Researcher, 41*(4), 425–443. doi:10.1007/s13384-013-0140-x.

Allen, D., & Ryan, K. (1969). *Microteaching*. Reading, MA: Addison-Wesley.

Anderson, L., Evertson, C., & Brophy, J. (1979). An experimental study of effective teaching in first-grade reading groups. *The Elementary School Journal, 79*, 193–223.

Aspland, T. (2006). Changing patterns of teacher education in Australia. *Education Research and Perspectives, 133*(2), 140–163.

Auchmuty, J. C. (1980). *Report of the national inquiry into teacher education*. Canberra, Australia: Australian Government Publishing Service.

Australian Association of Mathematics Teachers. (2006). *Standards for excellence in teaching mathematics in Australian schools*. Adelaide, SA: The Australian Association of Mathematics Teachers Inc.

Australian College of Educators. (2003). *Report of a national forum on teacher standards, quality and professionalism*. Canberra, Australia: Commonwealth of Australia.

Australian Science Teachers Association. (2002). *National professional standards for highly accomplished teachers of science*. Canberra, Australia: Australian Science Teachers Association.

Ball, D. L., & Forzani, F. (2009). The work of teaching and the challenge for teacher education. *Journal of Teacher Education, 60*, 497–510.

Barber, M., & Mourshed, M. (2007). *How the world's best-performing school systems come out on top*. McKinsey & Company. Retrieved from http://mckinseyonsociety.com/downloads/reports/Education/Worlds_School_Systems_Final.pdf

Bates, R. (2002). Australian teacher education: Some background observations. *Journal of Education for Teaching: International Research and Pedagogy, 28*(3), 217–220.

Bates, R. (2004). Regulation and autonomy in teacher education: Government, community or democracy? *Journal of Education for Teaching: International Research and Pedagogy, 30*(2), 117–130. doi:10.1080/0260747042000229744.

Ben-Peretz, M., Bromme, R., & Halkes, R. (Eds.). (1986). *Advances of research on teacher thinking*. Lisse, The Netherlands: Swets & Zeitlinger.

Berliner, D. (2013). Problems with value-added evaluations of teachers? Let me count the ways! *The Teacher Educator, 48*(4), 235–243.

Boyd, D., Grossman, P., Lankford, H., Loeb, S., Michelli, N., & Wyckoff, J. (2006). Complex by design: Investigating pathways into teaching in New York city schools. *Journal of Teacher Education, 57*(2), 155–166.

Boyd, D., Grossman, P., Lankford, H., Loeb, S., & Wyckoff, J. (2009). Teacher preparation and student achievement. *Educational Evaluation and Policy Analysis, 31*(4), 416–440.

British Educational Research Association (BERA). (2014). *Research and the teaching profession: Building the capacity for a self-improving education system* (Final report of the BERA-RSA inquiry into the role of research in teacher education). London: BERA.

Brophy, J. E., & Good, T. L. (1986). Teacher behaviors and student achievement. In M. C. Wittrock (Ed.), *Handbook of research on teaching* (3rd ed., pp. 332–375). New York: Macmillan.

Brouwer, N., & Korthagen, F. (2005). Can teacher education make a difference? *American Education Research Journal, 42*(1), 153–224.

Brown, S., & McIntyre, D. (1988). The professional craft knowledge of teachers. *Scottish Educational Review*, Special Issue, 39–47.

Bullough, R. V. J. (2014). Recalling 40 years of teacher education in the USA: A personal essay. *Journal of Education for Teaching: International Research and Pedagogy, 40*(5), 474–491. doi :10.1080/02607476.2014.956537.

Burbules, N., & Densmore, K. (1991). The limits of making teaching a profession. *Educational Policy, 5*(1), 44–63.

Calderhead, J. (1987). *Exploring teachers' thinking*. London: Cassell.

Caldwell, B., & Sutton, D. (2010). *Review of teacher education and school induction*. Brisbane, Australia: Department of Education and Training, Queensland Government.

Carter, A. (2015). *Carter review of initial teacher training (ITT)*. London: Department of Education.

Carter, K. (1990). Teachers' knowledge and learning to teach. In W. R. Houston (Ed.), *Handbook of research on teacher education* (pp. 291–310). New York: Macmillan.

Carter, K., Sabers, D., Cushing, K., Pinnegar, S., & Berliner, D. C. (1987). Processing and using information about students: A study of expert, novice and postulant teachers. *Teaching and Teacher Education, 3*, 147–157.

Centre for Education Policy and Analysis. (2012). *Teacher pathway project*. Teacher Policy Research. Retrieved October 14, 2014, from http://www.cepa.stanford.edu/tpr/teacher-pathway-project

Clandinin, D. J., & Connelly, F. M. (1987). Teachers' personal knowledge: What counts as 'personal' in studies of the personal. *Journal of Curriculum Studies, 19*(6), 487–500.

Clark, C. (1988). Asking the right questions about teacher preparation: Contributions of research on teacher thinking. *Educational Researcher, 17*, 5–12.

Clark, C., & Peterson, P. (1986). Teachers' thought processes. In M. C. Wittrock (Ed.), *Handbook of research on teaching* (3rd ed., pp. 255–296). New York: Macmillan.

Clarke, A., Triggs, V., & Nielsen, W. (2014). Cooperating teacher participation in teacher education: A review of the literature. *Review of Educational Research, 84*(2), 163–202.

Cochran-Smith, M. (2005). The new teacher education: For better or for worse? *Educational Researcher, 34*(7), 3–17.

Cochran-Smith, M. (2008). The new teacher education in the United States: Directions forward. *Teachers and Teaching: Theory and Practice, 14*(4), 271–282.

Cochran-Smith, M., Feiman-Nemser, S., & McIntyre, D. (Eds.). (2008). *Handbook of research on teacher education: Enduring questions in changing contexts* (3rd ed.). New York: Lawrence Erlbaum Associates/Routledge/Taylor & Francis Group.

Cochran-Smith, M., & Fries, K. (2005). Researching teacher education in changing times: Politics and paradigms. In M. Cochran-Smith & K. Zeichner (Eds.), *Studying teacher education: The report of the AERA panel on research and teacher education*. Mahwah, NJ: Lawrence Erlbaum Publishers.

Cochran-Smith, M., Piazza, P., & Power, C. (2013). The politics of accountability: Assessing teacher education in the United States. *The Educational Forum, 77*(1), 6–27. doi:10.1080/00131725.2013.739015.

Cochran-Smith, M., & Zeichner, K. (Eds.). (2005). *Studying teacher education: The report of the AERA panel on research and teacher education*. Mahwah, NJ: Lawrence Erlbaum Associates.

Cofre, H., Gonzalez-Weil, C., Vergara, C., Santibanez, D., Furman, M., Podesta, M., et al. (2015). Science teacher education in South America: The case of Argentina, Colombia and Chile. *Journal of Science Teacher Education, 26*, 45–63. doi:10.1007/s10972-015-9420-9.

Committee for the Review of Teaching and Teacher Education. (2003). *Australia's teachers: Australia's future. Advancing innovation, science, technology and mathematics*. Canberra, Australia: Commonwealth of Australia.

Conant, J. B. (1963). *The education of American teachers*. New York: McGraw-Hill.

Connell, R. W. (2009). Good teachers on dangerous ground: Towards a new view of teacher quality and professionalism. *Critical Studies in Education, 50*(3), 213–229.

Conway, P. (2013). Cultural flashpoint: The politics of teacher education in Ireland. *The Educational Forum, 77*(1), 51–72.
Conway, P., Murphy, R., Rath, A., & Hall, K. (2009). *Learning to teach and its implications for the continuum of teacher education: A nine-country cross-national study*. Ireland, Europe: Teaching Council.
Darling-Hammond, L. (1989). Accountability for professional practice. *Teachers College Record, 91*(1), 59–80.
Darling-Hammond, L. (1990). Teacher professionalism: Why and how? In A. Lieberman (Ed.), *Schools as collaborative cultures: Creating the future now*. London: Falmer Press.
Darling-Hammond, L. (1997). *Doing what matters most: Investing in quality teaching*. New York: National Commission on Teaching & America's Future.
Darling-Hammond, L. (2000a). How teacher education matters. *Journal of Teacher Education, 51*(3), 166–173.
Darling-Hammond, L. (2000b). Teacher quality and student achievement: A review of state policy evidence. *Education Policy Analysis Archives, 8*(1), 1–44. Retrieved August 2005, from http://epaa.asu.edu/epaa/v2008n2001.html
Darling-Hammond, L. (2004a). Inequality and the right to learn: Access to qualified teachers in California's Public Schools. *Teachers College Record, 106*(10), 1936–1966.
Darling-Hammond, L. (2004b). Standards, accountability, and school reform. *Teachers College Record, 106*(6), 1047–1085.
Darling-Hammond, L. (2006). Assessing teacher education: The usefulness of multiple measures for assessing teacher outcomes. *Journal of Teacher Education, 57*(2), 120–138.
Darling-Hammond, L. (2013). *Getting teacher evaluation right: What really matters for effectiveness and improvement*. New York: Teachers College Press.
Darling-Hammond, L., & Baratz-Snowden, J. (2007). A good teacher in every classroom: Preparing the highly qualified teachers our children deserve. *Educational Horizons, 85*(2), 111–132.
Darling-Hammond, L., Barnett, B., & Thoreson, A. (2001). Does teacher certification matter? Evaluating the evidence. *Educational Evaluation and Policy Analysis, 23*(1), 57–77.
Darling-Hammond, L., & Bransford, J. (Eds.). (2005). *Preparing teachers for a changing world: What teachers should learn and be able to do*. San Francisco: Jossey-Bass.
Darling-Hammond, L., Holtzman, D. J., Gatlin, S. J., & Heilig, J. V. (2005). Does teacher preparation matter? Evidence about teacher certification, Teach for America, and teacher effectiveness. *Education Policy Analysis Archives, 13*(42), 1–51. Retrieved from November 13, 2007, from http://epaa.asu.edu/epaa/v13n42/
Day, C., Kingston, A., Stobart, G., & Sammons, P. (2006). The personal and professional selves of teachers: Stable and unstable identities. *British Educational Research Journal, 32*(4), 601–616.
Day, C., Stobart, G., Sammons, P., & Kington, A. (2006). Variations in the work and lives of teachers: Relative and relational effectiveness. *Teachers and Teaching: Theory and Practice, 12*(2), 169–192.
Decker, P. T., Mayer, D. P., & Glazerman, S. (2004). *The effects of teach for America on students: Findings from a national evaluation*. Princeton, NJ: Mathematica Policy Research, Inc.
Department of Education (DfE). (2010). *The case for change*. London: DfE.
Department of Employment Education and Training. (1988). *Strengthening Australia's schools: A consideration of the focus and content of schooling*. Canberra, Australia: Australian Government Publishing Service.
Dixon, M., Mayer, D., Gallant, A., & Allard, A. (2011). *Authentically assessing beginning teaching: Professional standards and teacher performance assessment. Report on a project funded by the Victorian department of education and early childhood education and the Victorian Institute of Teaching*. Melbourne, Australia: Deakin University.
Donaldson, G. (2010). *Teaching Scotland's future: Report of a review of teacher education in Scotland*. Edinburgh, Scotland: Scottish Government.

Duncan, A. (2009, October 22). *Teacher preparation: Reforming the uncertain profession. Remarks of Secretary Arne Duncan at Teachers College, Columbia University.* Retrieved from http://www.ed.gov/news/speeches/teacher-preparation-reforming-uncertainprofession

Dunkin, M. J., & Biddle, B. J. (1974). *The study of teaching*. New York: Holt, Rinehart and Winston.

Dye, T. (1994). *Understanding public policy*. Englewood Cliffs, NJ: Prentice-Hall.

Dyson, M. (2005). Australian teacher education: Although reviewed to the eyeballs is there evidence of significant change and where to now? *Australian Journal of Teacher Education, 30*(1), 37–54.

Ebbeck, F. (1990). *Teacher education in Australia: A report to the Australian Education Council by an AEC working party*. Canberra, Australia: AGPS.

Education and Training Committee. (2005). *Step up, Step in, Step out: Report on the inquiry into the suitability of pre-service teacher training in Victoria*. Melbourne, Australia: Parliament of Victoria.

Elbaz, F. (1983). *Teacher thinking: A study of practical knowledge*. New York: Nichols Publishing.

Elbaz, F. (1987). Teacher's knowledge of teaching: Strategies for reflection. In J. Smyth (Ed.), *Educating teachers: Changing the nature of pedagogical knowledge* (pp. 45–53). Lewes, UK: Falmer Press.

Evagorou, M., Dillon, J., Viiri, J., & Albe, V. (2015). Pre-service science teacher preparation in Europe: Comparing pre-service teacher preparation programs in England, France, Finland and Cyprus. *Journal of Science Teacher Education, 26*, 99–115. doi:10.1007/s10972-015-9421-8.

Finn, C., & Kanstoroom, M. (2000). *Improving, empowering, dismantling*. Washington, DC: Thomas B. Fordham Foundation.

Fuller, E. (2014). Shaky methods, shaky motives: A critique of the national council of teacher quality's review of teacher preparation programs. *Journal of Teacher Education, 65*(1), 63–77.

Furlong, J. (2013). Globalisation, Neoliberalism, and the reform of teacher education in England. *The Educational Forum, 77*(1), 28–50. doi:10.1080/00131725.2013.739017.

Furlong, J., Barton, L., Miles, S., Whiting, C., & Whitty, G. (2000). *Teacher education in transition: Re-forming teacher professionalism*. Buckingham, UK: Open University Press.

Gage, N. (1963). Paradigms for research on teaching. In N. Gage (Ed.), *The handbook of research on teaching*. Chicago: Rand McNally.

Gage, N. (1978). *The scientific basis of the art of teaching*. New York: Teachers College Press.

Gardner, D., et al. (1983). *A nation at risk: The imperative for educational reform*. Washington, DC: National Commission on Excellence in Education.

Gilroy, P. (2014). Policy interventions in teacher education: Sharing the English experience. *Journal of Education for Teaching: International Research and Pedagogy, 40*(5), 622–632. doi :10.1080/02607476.2014.957996.

Glazerman, S., Mayer, D., & Decker, P. (2006). Alternative routes to teaching: The impacts of Teach for America on student achievement and other outcomes. *Journal of Policy Analysis and Management, 25*(1), 75–96.

Good, T., & Brophy, J. (1973). *Looking into classrooms*. New York: Harper & Row.

Goodlad, J. I. (1990). *Teachers for our nation's schools*. San Francisco: Jossey-Bass.

Gore, J. (1987). Reflecting on reflective teaching. *Journal of Teacher Education, 38*(2), 33–39.

Gray, D., & Weir, D. (2014). Retaining public and political trust: Teacher education in Scotland. *Journal of Education for Teaching: International Research and Pedagogy, 40*(5), 569–587. doi :10.1080/02607476.2014.956541.

Greenberg, J., Walsh, K., & McKee, A. (2015). *Teacher prep review: A review of the nation's teacher preparation programs*. Washington, DC: National Council on Teacher Quality.

Grimmett, P. (2009). Legitimacy and identity in teacher education: A micro-political struggle constrained by macro-political pressures. *Asia Pacific Journal of Teacher Education, 37*(1), 5–26.

Grossman, P. (1990). *The making of a teacher: Teacher knowledge and teacher education*. New York: Teachers College Press.

Grossman, P. (1994). Teachers' knowledge. In T. Husen & T. N. Postlethwaite (Eds.), *The international encyclopedia of education* (2nd ed., Vol. 10, pp. 6117–6122). Oxford, UK: Pergamon.

Grossman, P. (2008). Responding to our critics: From crisis to opportunity in research on teacher education. *Journal of Teacher Education, 59*(1), 10–23.

Grossman, P. (2011). A framework for teaching practice: A brief history of an idea. *Teachers College Record, 113*(12).

Grossman, P., & McDonald, M. (2008). Back to the future: Directions for research in teaching and teacher education. *American Educational Research Journal, 45*(1), 184–205.

Groundwater-Smith, S., Brennan, M., McFadden, M., & Mitchell, J. (2001). *Secondary schooling in a changing world*. Sydney, Australia: Harcourt.

Hammerness, K., Darling-Hammond, L., & Bransford, J. (2005). How teachers learn and develop. In L. Darling-Hammond & J. Bransford (Eds.), *Preparing teachers for a changing world: What teachers should learn and be able to do* (pp. 358–389). San Francisco: Jossey Bass.

Hargreaves, L., Cunningham, M., Everton, T., Hansen, A., Hopper, B., McIntyre, D., et al. (2006). *The status of teachers and the teaching profession: Views from inside and outside the profession. Interim findings from the Teacher Status Project*. Cambridge, UK: University of Cambridge and University of Leicester.

Hattie, J. (2009). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement*. Milton Park, Australia: Routledge.

Hatton, N., & Smith, D. (1995). Reflection in teacher education: Towards definition and implementation. *Teaching and Teacher Education, 11*(1), 33–49.

Hobson, A. J., Malderez, A., Tracey, L., Homer, M. S., Ashby, P., Mitchell, N., et al. (2009). *Becoming a Teacher: Teachers' experiences of initial teacher training, Induction and early professional development (Final report)*. Nottingham, UK: Department for Children Schools and Families (DCSF).

House of Representatives Standing Committee on Education and Vocational Training. (2007). *Top of the class: Report on the inquiry into teacher education*. Canberra, Australia: The Parliament of the Commonwealth of Australia.

Howe, E. R. (2014). A narrative of teacher education in Canada: Multiculturalism, technology, bridging theory and practice. *Journal of Education for Teaching: International Research and Pedagogy, 40*(5), 588–599. doi:10.1080/02607476.2014.956540.

Hoyle, E., & John, P. (1982). *Professional knowledge and professional practice*. London: Cassell.

Hulme, M., & Sangster, P. (2013). Challenges of research(er) development in university schools of education: A Scottish case. *Journal of Further and Higher Education, 37*(2), 181–200.

Ingvarson, L. (2002a). *Development of a national standards framework for the teaching profession* (ACER policy briefs). Melbourne, Australia: Australian Council for Educational Research.

Ingvarson, L. (2002b). *Strengthening the profession? A comparison of recent reforms in the UK and the USA* (ACER policy briefs). Melbourne, Australia: Australian Council for Educational Research.

Ingvarson, L., Elliot, A., Kleinhenz, E., & McKenzie, P. (2006). *Teacher education accreditation: A review of national and international trends and practices*. Melbourne, Australia: Australian Council for Educational Research.

Isenbarger, L., & Zembylas, M. (2006). The emotional labour of caring in teaching. *Teaching and Teacher Education, 22*(1), 120–134.

Kemmis, S., & McTaggart, R. (1988). *The action research planner*. Geelong, Australia: Deakin University Press.

Kennedy, M. M. (2002). Knowledge and teaching. *Teachers and Teaching: Theory and Practice, 8*(3), 355–370.

Kennedy, M. M., Ahn, S., & Choi, J. (2008). The value added by teacher education. In M. Cochran-Smith, S. Feiman-Nemser, & J. McIntyre (Eds.), *Handbook of research on teacher education: Enduring issues in changing contexts* (3rd ed., pp. 1247–1272). Mahwah, NJ: Lawrence Erlbaum.

Koerner, J. (1963). *The miseducation of American teachers*. Baltimore: Penguin.

Labaree, D. (2004). *The trouble with ed schools*. New Haven, CT/London: Yale University Press.
Labaree, D. (2005). Life on the margins. *Journal of Teacher Education, 56*(3), 186–191.
Labaree, D. (2008). An uneasy relationship: The history of teacher education in the university. In M. Cochran-Smith, S. Feiman-Nemser, & D. McIntyre (Eds.), *Handbook of research on teacher education: Emerging issues in changing contexts* (3rd ed., pp. 290–306). Washington, DC: American Association of Teacher Educators.
Laczko-Kerr, I., & Berliner, D. C. (2002). The effectiveness of "Teach for America" and other under-certified teachers on student academic achievement: A case of harmful public policy. *Education Policy Analysis Archives, 10*(37), 1–53. Retrieved July 13, 2008, from http://epaa.asu.edu/epaa/v10n37/
Le Cornu, R., & Ewing, R. (2008). Reconceptualising professional experiences in pre-service teacher education/reconstructing the past to embrace the future. *Teaching and Teacher Education, 24*(7), 1799–1812.
Levine, A. (2006). *Educating school teachers*. Washington, DC: Education Schools Project.
Lingard, B., O'Brien, P., & Knight, J. (1993). Strengthening Australia's schools through corporate federalism? *Australian Journal of Education, 37*(3), 231–247.
Liu, E., Liu, C., & Wang, J. (2015). Pre-service science teacher preparation in China: Challenges and promises. *Journal of Science Teacher Education, 26*, 29–44. doi:10.1007/s10972-014-9404-1.
Loewenberg Ball, D., Thames, M. H., & Phelps, G. (2008). Content knowledge for teaching. What makes it special? *Journal of Teacher Education, 59*(5), 389–407.
Louden, W. (2000). Standards for standards: The development of Australian professional standards for teachers. *Australian Journal of Education, 44*(2), 118–134.
Louden, W., Heldsinger, S., House, H., Humphry, S., & Darryl Fitzgerald, D. (2010). *Learning from teacher education: The impact of teacher education on knowledge of literacy and mathematics teaching. Study of effective teacher education: Progress report 2*. Canberra, Australia: Australian Institute for Teaching and School Leadership (AITSL).
Louden, W., & Wallace, J. (1993). Competency standards in teaching. *Unicorn, 19*(1), 45–53.
Loughran, J. (2005). Researching teaching about teaching: Self-study of teacher education practices. *Studying Teacher Education, 1*(1), 5–16.
Loughran, J., Berry, A., & Mulhall, P. (2012). *Understanding and developing science teachers' pedagogical content knowledge*. Rotterdam, The Netherlands: Sense.
Loughran, J., & Russell, T. (Eds.). (2002). *Improving teacher education through self-study practices*. London: Routledge.
Ludlow, L., Mitescu, E., Pedulla, J., Cochran-Smith, M., Cannady, M., Enterline, S., et al. (2010). An accountability model for initial teacher education. *Journal of Education for Teaching: International Research and Pedagogy, 36*(4), 353–368. doi:10.1080/02607476.2010.513843.
MacBeath, J. (2012). *Future of teaching profession*. Cambridge, UK: Education International Research Institute, University of Cambridge.
Marland, P. (1986). Models of teachers' interactive thinking. *The Elementary School Journal, 87*(2), 209–226.
Martinez, K. (1990). Critical reflections on critical reflection in preservice teacher education. *The Journal of Teaching Practice, 10*(2), 20–28.
Mayer, D. (2005). Reviving the 'Policy Bargain' discussion: The status of professional accountability and the contribution of teacher performance assessment. *The Clearing House, 78*(4), 177–181.
Mayer, D., Luke, C., & Luke, A. (2008). Teachers, national regulation and cosmopolitanism. In A. Phelan & J. Sumsion (Eds.), *Critical readings in teacher education: Provoking absences* (pp. 79–98). Rotterdam, The Netherlands: Sense Publishers.
Mayer, D., Mitchell, J., Macdonald, D., & Bell, R. (2005). Professional standards for teachers: A case study of professional learning. *Asia Pacific Journal of Teacher Education, 33*(2), 159–179.

Mayer, D., Pecheone, R., & Merino, N. (2012). Rethinking teacher education in Australia: The teacher quality reforms. In A. Lieberman & L. Darling-Hammond (Eds.), *Teacher education around the world: Changing policies and practices* (pp. 110–129). New York: Routledge.

McCaffrey, D. F., Lockwood, J. R., Koretz, D. L., & Hamilton, L. S. (2004). *Evaluating value-added models for teacher accountability*. Santa Monica, CA: RAND.

Menter, I., & Hulme, M. (2011). Teacher education reform in Scotland: National and global influences. *Journal of Education for Teaching: International Research and Pedagogy, 37*(4), 387–397.

Menter, I., Hulme, M., Elliot, D., & Lewin, J. (2010). *Literature review on teacher education in the twenty-first century*. Edinburgh, Scotland: Education Analytical Services, Schools Research, Scottish Government.

Ministerial Council on Education Employment Training and Youth Affairs. (2003). *National framework for professional standards for teaching*. Melbourne, Australia: MCEETYA.

Moore, A. (2004). *The good teacher: Dominant discourses in teaching and teacher education*. Abingdon, UK: Routledge.

Murray, J., & Passy, R. (2014). Primary teacher education in England: 40 years on. *Journal of Education for Teaching: International Research and Pedagogy, 40*(5), 492–506. doi:10.1080/02607476.2014.956542.

Murray, S., Nuttall, J., & Mitchell, J. (2008). Research into initial teacher education in Australia: A survey of the literature 1995–2004. *Teaching and Teacher Education, 24*(1), 225–239.

National Research Council. (2010). *Preparing teachers: Building evidence for sound policy.* Committee on the study of Teacher Preparation Programs in the United States; National Research Council. Washington, DC: National Academies Press.

Noffke, S. E., & Brennan, M. (1991). Student teachers use action research: Issues and examples. In B. R. Tabachnick & K. Zeichner (Eds.), *Issues and practices in inquiry-oriented teacher education* (pp. 186–201). London: Falmer.

Ogunniyi, M. B., & Rollnick, M. (2015). Pre-service science teacher education in Africa: Prospects and challenges. *Journal of Science Teacher Education, 26*, 65–79. doi:10.1007/s10972-014-9415-y.

Organisation for Economic Co-operation and Development (OECD). (2005). *Teachers matter: Attracting, developing and retaining effective teachers*. Paris: OECD.

Organisation for Economic Co-operation and Development (OECD). (2007). *Improving the quality of teacher education*. Paris: OECD.

Pecheone, R., & Chung, R. (2006). Evidence in teacher education. *Journal of Teacher Education, 57*(1), 22–36.

Philips, D., & Ochs, K. (2004). Researching policy borrowing: Some methodological challenges in comparative education. *British Educational Research Journal, 30*(6), 773–784.

Preston, B., & Kennedy, K. (1995). The national competency framework for beginning teaching: A radical approach to initial teacher education. *Australian Education Researcher, 22*(2), 27–62.

Ramsey, G. (2000). *Quality matters: Revitalising teaching, critical times, critical choices. Report of the review of teacher education, New South Wales*. Sydney, Australia: NSW Department of Education and Training.

Reid, J. (2011a). Doing it by the numbers? Educational research and teacher education. *The Australian Educational Researcher, 38*(4), 383–400.

Reid, J. (2011b). A practice turn for teacher education? *Asia-Pacific Journal of Teacher Education, 39*(4), 293–310.

Rizvi, F., & Lingard, R. (2010). *Globalizing education policy*. London: Routledge.

Sahlberg, P. (2007). Education policies for raising student learning: The Finnish approach. *Journal of Educational Policy, 22*(2), 147–171.

Sanders, D., & McCutcheon, G. (1985). The development of practical theories of teaching. *Journal of Curriculum and Supervision, 21*(1), 50–67.

Schatzki, T. (2002). *The site of the social: A philosophical exploration of the constitution of social life and change*. University Park, PA: PU Press.

Schatzki, T., Knorr-Cetina, K., & von Savigny, E. (Eds.). (2001). *The practice turn in contemporary theory*. New York: Routledge.

Schleicher, A. (2011). *Building a high-quality teaching profession: Lessons from around the world*. Paris: OECD Publishing.
Schon, D. (1983). *The reflective practitioner*. New York: Basic Books.
Schön, D. A. (1987). *Educating the reflective practitioner*. San Francisco: Jossey-Bass.
Shotter, J. (1993). *Cultural politics of everyday life*. Toronto, ON: University of Toronto Press.
Shulman, L. (1998a). *Teaching and teacher education among the professions.* 38th Charles W. Hunt memorial lecture. Washington, DC: AACTE Publications.
Shulman, L. (1998a). Theory, practice, and the education of professionals. *The Elementary School Journal, 98*(5), 511–526.
Shulman, L. S. (1986). Those who understand: Knowledge growth in teaching. *Educational Researcher, 15*(2), 4–14.
Shulman, L. S. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review, 57*(1), 1–22.
Simons, M., & Kelchtermans, G. (2008). Teacher professionalism in Flemish policy on teacher education: A critical analysis of the Decree on teacher education (2006) in Flanders, Belgium. *Teachers and Teaching: Theory and Practice, 14*(4), 283–294.
Sleeter, C. (2014). Towards teacher education research that informs policy. *Educational Researcher, 43*(3), 146–153.
Smith, R., & Weaver, C. (1998). The end of teacher education? Strong signals and weak directions. *Change: Transformations in Education, 1*(1), 32–47.
Smyth, J. (1989). Developing and sustaining critical reflection in teacher education. *Journal of Teacher Education, 40*(2), 2–9.
St. Maurice, H., & Shaw, P. (2004). Teacher portfolios come of age: A preliminary study. *NAASP Bulletin, 88*, 15–25.
Standards for Teachers of English Language and Literacy in Australia (STELLA). (2002). From http://www.stella.org.au/statements.jsp
Storey, A. (2006). The search for teacher standards: A nationwide experiment in the Netherlands. *Journal of Educational Policy, 21*(2), 215–234.
Tatto, M. T. (2013). *The role of research in international policy and practice in teacher education. Research and teacher education: The BERA-RSA inquiry*. London: British Educational Research Association (BERA).
Teacher Education Ministerial Advisory Group. (2014, December). *Action now: Classroom ready teachers*. Canberra, Australia: Australian Government.
Thames, M. H., & Ball, D. L. (2010). What math knowledge does teaching require? *Teaching Children Mathematics, 17*(4), 220–229.
The Abell Foundation. (2001). *Teacher certification reconsidered: Stumbling for quality*. Baltimore: The Abell Foundation.
The Carnegie Taskforce on Teaching as a Profession. (1986). *A nation prepared: Teachers for the 21st century*. Washington, DC: Carnegie Forum on Education and the Economy.
The Holmes Group. (1986). *Tomorrow's teachers: A report of the Holmes Group*. East Lansing, MI: The Holmes Group.
The Teaching Commission. (2004). *Teaching at risk: A call to action*. New York: Author.
Tom, A. (1997). *Redesigning teacher education*. Albany, NY: SUNY Press.
Tripp, D. H. (1993). *Critical incidents in teaching: Developing professional judgement*. London: Routledge.
Turney, C. (1975). *Sydney micro-skills: Skills for teachers handbook*. Sydney, Australia: University of Sydney Press.
US Department of Education. (2003). *Meeting the highly qualified teacher challenge: The Secretary's second annual report on teacher quality*. Washington, DC: US Department of Education.
US Department of Education. (2004). *Meeting the highly qualified teacher challenge: The Secretary's third annual report on teacher quality*. Washington, DC: US Department of Education.

US Department of Education. (2011, September). *Our future, our teachers: The Obama Administration's plan for teacher education reform and improvement*. Washington, DC: US DOE. Retrieved from http://www.ed.gov/sites/default/files/our-future-our-teachers.pdf

Van Driel, J. H., & Berry, A. (2012). Teacher professional development focusing on pedagogical content knowledge. *Educational Researcher, 41*(1), 26–28.

van Manen, M. (1991a). Reflectivity and the pedagogical moment: The normativity of pedagogical thinking and acting. *Journal of Curriculum Studies, 23*(6), 507–536.

van Manen, M. (1991b). *The tact of teaching*. New York: SUNY Press.

Vasquez Heilig, J., & Jez, S. J. (2014). *Teach for America: A return to the evidence*. Boulder, CO: National Education Policy Center.

Vick, M. (2006). 'It's a difficult matter': Historical perspectives on the enduring problem of the practicum in teacher preparation. *Asia-Pacific Journal of Teacher Education, 34*(2), 181–198.

Walker, J., & von Bergmann, H. (2013). Teacher education policy in Canada: Beyond professionalization and deregulation. *Canadian Journal of Education, 36*(4), 65–92.

Whitty, G. (1989). The new right and the national curriculum: State control or market forces? *Journal of Educational Policy, 4*, 329–341.

Whitty, G. (2014). Recent developments in teacher training and their consequences for the 'University Project' in education. *Oxford Review of Education, 40*(4), 466–481.

Wilson, S. M., Shulman, L. S., & Richert, A. E. (1987). 150 different ways of knowing: Representations of knowledge in teaching. In J. Calderhead (Ed.), *Exploring teachers' thinking* (pp. 101–124). London: Cassell.

Xu, Z., Hannaway, J., & Taylor, C. (2009). Making a difference? The effects of teach for America in high school. *Journal of Policy Analysis and Management, 30*(3), 447–469.

Yinger, R., & Hendricks-Lee, M. S. (2000). The language of standards and teacher education reform. *Educational Policy, 14*(1), 94–106.

Zeichner, K. (1987). Preparing reflective teachers: An overview of instructional strategies which have been employed in preservice teacher education. *International Journal of Educational Research, 11*(5), 565–575.

Zeichner, K. (1999). The new scholarship in teacher education. *Educational Researcher, 28*(9), 4–15.

Zeichner, K. (2005). A research agenda for teacher education. In M. Cochran-Smith & K. Zeichner (Eds.), *Studying teacher education: The report of the AERA panel on research and teacher education* (pp. 737–759). Mahwah, NJ: Lawrence Erlbaum Publishers.

Zeichner, K. (2009). *Teacher education and the struggle for social justice*. New York: Routledge.

Zeichner, K. (2011). Assessing state and federal policies to evaluate the quality of teacher preparation programs. In P. Earley, D. Imig, & N. Michelli (Eds.), *Teacher education policy in the United States: Issues and tensions in an era of evolving expectations* (pp. 76–105). New York: Routledge.

Zeichner, K. (2012). The turn once again toward practice-based teacher education. *Journal of Teacher Education, 63*(5), 376–382.

Zeichner, K. (2014). The struggle for the soul of teaching and teacher education in the USA. *Journal of Education for Teaching, 40*(5), 551–568.

Zeichner, K., & Liston, D. (1987). Teaching student teachers to reflect. *Harvard Educational Review, 57*(1), 23–48.

Zeichner, K., Payne, K., & Brayko, K. (2015). Democratizing teacher education. *Journal of Teacher Education, 66*, 122–135. doi:10.1177/0022487114560908.