

What Counts? Who is Counting? Teacher Education Improvement and Accountability in a Data-Driven Era

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Abstract This chapter offers an overview of policies for reform and accountability in teacher education, addressing the role of evidence, and the opportunities for improvement within the field of teacher education. It focuses upon efforts to utilize tests or assessments and data-driven methodologies to inform government, the public, and educators. The discussion draws from the manner in which these issues have played out in the United States, to contrast with approaches and opportunities in the Australian context. The unsatisfying outcomes of many past initiatives in the United States point to the need to improve reform and accountability efforts in order to maximize the chances for meaningful change in education. The chapter concludes with a call for reflection and action within teacher education itself, arguing a “window of opportunity” exists, particularly in Australia, to develop a more confident way forward in the context of present reforms.

Around the globe, the goals for teacher preparation programs focus upon the creation of a better world through the provision of a more meaningful opportunity to learn for all students, both future teachers and the students they will eventually teach. Beginning in the late twentieth century, leaders within the field of teacher education embraced efforts to professionalize teaching and to reform the preparation of future teachers through implementation of research-based improvements to practice. Increasingly, however, voices outside the field of teacher education have criticized the quality and consequences of teacher education, seeking greater quality assurance, and calling for substantial reforms and more accountability for the enterprise (Australian Government 2016; Hess 2011; Michelli and Earley 2011; Wilson and Youngs 2005; Labaree 2004; Kramer 1991; Murnane 1991).

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1 The Contexts and Calls for Reform and Accountability

A series of efforts in the U.S. over decades to “reform” teacher education have consistently left policymakers, the public, and educators themselves dissatisfied. One characteristic of any profession is the need for continuous change in light of new research and developments in the context for the work and in the field of practice. Yet when changes are mandated from outside the profession, especially in the public policy context, requirements for change can sometimes have undesirable effects.

Globalization of education reform initiatives is a growing phenomenon, particularly in the Anglo-American context, with adoption of reform approaches from one nation into another (Lingard et al. 2016). Quality assurance for teacher education has become an increasing global phenomenon (Tatto 2015; Mawdsley and Cumming 2011). Local variation in implementation occurs, but all in pursuit of global notions of the importance of schooling and accountability.

The context for teacher preparation is changing rapidly. Teacher preparation is now situated not only in colleges and universities but in an increasing number of alternative and nontraditional providers.¹ These include charitable not-for-profit entities, but also in the U.S. corporate, for-profit entities; most of both these types of alternative programs operate without ties or with limited ties to traditional tertiary education institutions. At the same time, the elementary and secondary schools that teacher preparation programs are intended to serve are also changing dramatically in response to new external demands for reform and accountability in those institutions. Finally, teacher preparation is situated in an increasingly politicized marketplace for education services, with more consumerist perspectives on the part of future students and eventual employers on the provision and accountability of education. At the same time, changing types of government intervention and oversight have occurred in the U.S. (Pullin 2015, 2013).

In Australia, the series of efforts to improve the performance of primary and secondary schools and to enhance teaching parallel many U.S. initiatives (Lingard et al. 2016; Mawdsley and Cumming 2011). One initiative seeks to increase the capability of entrants to teacher preparation by requiring top 30% test performance

¹Teach for America was one of the early alternative providers in the United States. It then expanded to become a separate international organization, Teach for All, which includes Teach for Australia, the recipient of significant government support. See www.teachforaustralia.org.

on a literacy and numeracy test (LANTITE) (Australian Government, Department of Education and Training, n.d.). And new federal proposals call for state and territory compliance as a condition for federal funds in a series of new reforms targeted primarily at primary and secondary schools, but bound to have an impact on tertiary education. The reforms embedded in the new system would include requirements for early literacy and numeracy testing of 5-year olds, teacher pay raises based on results of student performance, and outcomes accountability for higher education teacher education programs (Australian Government, Department of Education and Training 2016). All are forms of the same types of data-driven accountability systems (Thompson et al. 2016; Mawdsley and Cumming 2011) embraced in the U.S., beginning in the late 1970s. A significant difference between these new Australian proposals and the U.S. approaches is the extent to which the new Australian proposals offer in tandem a range of initiatives the U.S. has attempted, usually piecemeal, since the 1970s.

In the U.S., teacher testing has been utilized for decades (Haney et al. 1987). But teacher testing has not been the only mechanism used in an effort to regulate teacher education, either directly or indirectly. Going back to the 1970s, states and then the federal government imposed a growing number of test-based reform and accountability requirements, beginning in elementary and secondary education (Haertel and Herman 2005) and then recently turning greater attention to higher education (Earley et al. 2011). Over time, these efforts to change schools, colleges, and universities focused first on individual students and prospective teachers and then shifted focus to educational institutions themselves. Most U.S. initiatives relied heavily on standardized tests of elementary and secondary students, future teachers, or practicing teachers. Round after round of reforms were adopted and then, often before they could be fully implemented, new approaches or revisions of old approaches were added on. Yet the concerns about educational quality continued (Payne 2010).

The upper hand in governance authority in the U.S. shifted from the states to the federal government and then back to the states again. The latest proposal in the U.S. is to completely reconfigure the distribution of federal money to support education to allow grants to allow parents more choice in school assignments. This approach would allow a family a voucher or tax credit to choose to attend any public or private school, as has long been done in U.S. higher education student financial aid programs.

2 Teacher Testing Mandates from Outside Teacher Education

Teacher testing was for a long period the primary public policy lever for influencing the preparation of educators. In the U.S., teacher testing began as an initial effort within the higher education community to assess the quality of teacher preparation programs. Many decades ago, the American Council on Education (ACE), an

association of higher education colleges and universities, created the National Teacher Examination (NTE). For years it was the most widely used teacher test. It arose because of a concern among higher education leaders about the quality of schools of education; it was also implemented in an era in which there was a surplus of potential teachers (Haney et al. 1987).

Eventually, the stakes associated with teacher tests in the U.S. increased as external authorities began utilizing teacher tests for their own purposes. Teacher tests were used by states and local education officials for licensing, hiring, salary determinations, tenure, dismissal, and promotion (National Research Council 2001). As the consequences associated with teacher testing increased, the implications for educators and educational institutions became more significant and legal controversies ensued (Pullin 2001), as did controversy over the governance of educator preparation programs.

Teacher testing developed a more visible and high stakes purpose with profound implications under civil rights laws when the NTE was adopted in the southern part of the U.S. by some states and school districts after the imposition of federal requirement for the racial desegregation of public schools beginning in the 1960s. The concern was the quality of the teaching force (specifically the black teaching force) in newly racially integrated schools (Haney et al. 1987). Disproportionately low scores among racial minority groups resulted in court bans on test use unless high levels of professional technical quality were met by the state or school district requiring the testing and there was sufficient evidence the test use was not racially discriminatory (Pullin 2001; Haney et al. 1987).

Gradually, use of teacher tests spread to a majority of the states (National Research Council 2001; Haney et al. 1987). For the past 15 years or so, standardized testing of teachers has been used in many U.S. states and school districts and several different nonprofit and for-profit vendors provide several different types of tests. Much of this has been basic skills testing (what Australia would deem literacy and numeracy tests) although some also include subject matter and pedagogic knowledge (National Research Council 2001). Eventually, the U.S. government mandated not only the use of teacher tests but also the public reporting of the cumulative test scores of graduates of institutions as a mechanism for transparency and accountability of teacher preparation programs (Earley et al. 2011). Yet, despite these efforts, concerns about the quality of teacher education continued.

Despite the increasing use of teacher testing as an effort to improve teacher education, increasing dissatisfaction with teacher preparation has existed for decades in the U.S. among those looking at it from outside the enterprise, be they university administrators or government officials (Earley et al. 2011; Labaree 2004). As a result, efforts to reform teacher education have been undertaken by those within colleges and universities (teacher educators, scholars, institutions of higher education, accreditors) and from those outside teacher education (other scholars, government, foundations, research/advocacy groups, and alternate teacher preparation providers).

Consequently, in the U.S., many different types of entities (federal government, state governments, independent accrediting bodies, the media, independent research

and advocacy organizations, and teacher preparation programs themselves) try to evaluate teacher preparation programs with different purposes, data-gathering approaches, consequences, advantages, and disadvantages (Feuer et al. 2013; Michelli and Earley 2011). Because most governance of teacher education is decentralized among the states, policies varied from state to state. In response to some of the governmental efforts at regulation, teacher preparation institutions sometimes resisted change either actively or passively (Earley et al. 2011). It became increasingly evident that tests could be used in ways that might not be related to meaningful reform. At the same time, a growing number of scholars of teacher education initiated efforts to change teacher education building upon evidence-based approaches (Cochran-Smith and Zeichner 2005; Darling-Hammond 1997).

3 Efforts by Teacher Education to Reform Itself

Beginning in the 1980s (see, e.g., The Holmes Group 1986), there has been a history of teacher educators initiating their own efforts to professionalize the teaching force, to improve their teacher education practice, and to use research to drive those reforms (Cochran-Smith and Zeichner 2005; Darling-Hammond 1997).

Efforts at self-regulation of teacher education programs through professional accreditation also went through changes. After some years of competition between them, the two national accrediting entities in the U.S., the long-standing National Council for the Accreditation of Teacher Education (NCATE) and its more recent competitor the Teacher Education Accreditation Council (TEAC), merged in 2013 into a new entity, the Council for the Accreditation of Educator Preparation (CAEP) (Tatto et al. 2016). One of the goals of the creation of CAEP was to promote more coherence among the various other entities, professional associations, the states and the federal government in influencing educator preparation and the teaching profession. The impact of implementing the resulting new accreditation standards and practices is unknown as changes are only beginning; the federal government has not yet granted recognition to CAEP, an essential step if students are to be eligible for federal student financial aid.

This marks a shift to the pursuit of evidence of effectiveness from prior approaches that focused largely on documentation of inputs into teacher preparation programs like faculty quality, resources, curriculum and experiential components, and the like (Tatto et al. 2016; Zeichner 2011). Documentation of the capabilities of those entering teacher education, evaluation of students as they progress through teacher preparation and evidence of subject matter knowledge of teacher candidates are now required in many nations (Tatto 2015). These approaches to quality assurance in the U.S. now include efforts to assess the impact of teacher education by assessing the performance of graduates following completion of their preparation programs (Tatto 2015; Pullin 2015; U.S. Department of Education 2016).

4 What Counts Now?

Teacher test results now impact individuals in the U.S. for admissions to teacher preparation programs, licensure, hiring for employment, salary and bonuses, and termination of employment. And teacher tests and assessments are now increasingly being used for accountability and public reporting on the quality of teacher preparation programs. Teacher testing in the U.S. began with multiple-choice standardized tests to allow higher education institutions to assess their teacher education programs. It has now become an external mandate for accountability, but the tests used are no longer teacher tests alone and also include the use of test score data from the students of teacher education alumni for external assessments to infer the quality of teacher preparation programs. Throughout, the efforts of the state and federal governments and of the professional associations and accreditors rested on the untested assumption that increased regulation would improve education quality (Tatto et al. 2016). More promising forces for meaningful change may be new performance-based or portfolio-based assessments developed by teacher education researchers.

4.1 Reform from Within the Teacher Education Community

In the U.S., the design and implementation of a performance—or portfolio-based method of assessment for new teachers began with the eminent teacher education researcher Linda Darling-Hammond (1997, 2013). Her conception was that assessment for such purposes as teacher licensure or advanced certification could only serve to effectively promote reform of practice by being deeply embedded in practice (Darling-Hammond 1997). Initially used for certification of advanced proficiency from among teacher organizations themselves, portfolio-based approaches were eventually embraced by states as a part of the teacher licensure process (notably Connecticut and California). Then, encouraged by consortia of states through the Council of Chief State School Officers (CCSSO and its INTASC project) performance assessment was later embraced by American Association of Colleges of Teacher Education and some of the states and some individual higher education institutions. The assessment is now known as edTPA (American Association of Colleges of Teacher Education, n.d.).

There are multiple goals for edTPA in the U.S.: the licensure of teachers; the professionalization of the work of teaching; change in the curriculum and practice of schools of education; the improvement of elementary and secondary education, especially for the most at-risk students; and the enhancement of the public's faith in teachers (Knight et al. 2014). A research base is emerging on the validity and reliability of edTPA (Wei and Pecheone 2010).

Implementation of portfolio assessments for teachers has not been without controversy among teacher educators in the U.S. The most serious concerns have been raised about the use of the for-profit vendor Pearson to administer and score the portfolios. Additional concerns have been raised about the impingement on

local decision-making by teacher educators as well as constraints on academic freedom (Reagan et al. 2016; Cochran-Smith et al. 2012; Pullin 2004).

The aspiration to step away from test-based accountability and improvement approaches which have had a long history with little positive contribution is laudable. And, a reform driven by the profession itself holds more promise for meaningful change. Australia's new Graduate Teacher Performance Assessment might, if implemented appropriately, hold some of the same promise.

4.2 New External Mandates for Reform

At the same time that portfolio assessment was gaining traction in the U.S. among teacher educators, the federal government recently undertook another new teacher education accountability initiative. In Fall 2016, after years of controversy, the Obama Administration issued new accountability regulations for teacher education.² The goal of the federal government is to require “more meaningful indicators of program inputs and program outcomes, such as the ability of the program’s graduates to produce gains in student learning” (U.S. Department of Education 2016, p. 75494). As one set of teacher education researchers note, the regulations are based upon the premise that requiring teacher education programs to demonstrate their effectiveness will be the ultimate lever to drive education improvement in elementary and secondary schools (Tatto et al. 2016). The new requirements are consistent with other state and federal initiatives to hold higher education institutions accountable for the employment outcomes of all types of graduates. In other fields, the indicators most often focus on such factors as rates of employment and levels of income, although recent research indicates even some of those may have limited utility (Minaya and Scott-Clayton 2016). The new regulations apply to both traditional teacher preparation programs housed within colleges and universities and to so-called “alternative teacher preparation” providers who work independently, online, or in collaboration with public schools to prepare teachers. The regulations are expected to have considerable influence as compliance is required for programs to have access to any types of federally funded student financial aid offered by preparation programs or for individual graduates to access federally funded loan forgiveness programs for teaching in high risk schools (U.S. Department of Education 2016).

The new federal regulations require states to create systems to assess and publicly report on the quality of teacher preparation programs, labeling the low-performing and at-risk programs and implementing more complex systems of publicly available state and institutional report cards on teacher preparation programs. The intent is to allow prospective teachers information to determine which

²There is widespread speculation that a new Trump Administration will withdraw all of these regulations to implement its goal of reducing the federal role in education at all levels, curtailing federal government regulations, and allowing more private and for-profit education providers to flourish.

teacher education program they might wish to participate in, to give employers information on the quality of teacher education of job applicants, and to give programs information and technical assistance on how to improve. The new system requires states to develop valid and reliable, multifaceted measures for assessing and ranking teacher preparation program performance. States are to rank programs as “low-performing,” “at risk,” or “effective.” A previous proposal to include a category of “exceptional” programs was dropped in response to controversy.

One of the greatest controversies about the new federal requirements is the use of test score gains from students of teacher alumni to assess the effectiveness of teacher preparation programs. The government identifies as supporting social science for this approach an econometric model using correlation analysis of student test score gains associated with individual teachers (Rivkin et al. 2005). The validity and reliability of these types of approaches are widely contested by many social science researchers (see the extensive review of the literature in Amrein-Beardsley 2014; also Zeichner 2011; Harris and Harrington 2015). Valid research evidence on the relationship between accountability mandates and improved educational outcomes for children is limited; research on the effort to link teacher preparation outcomes to pupil outcomes of teacher education program alumni is limited (Tatto et al. 2016). Education researchers had identified the problem of the lack of validity and reliability of in the use of student test scores to determine the quality of those students’ teachers, what one termed “second level inference” (Popham 2001). In effect, a problem of a third level of inference arises with an even lower degree of validity and reliability evidence to support the inferences drawn when the impact of teacher education is assessed based on the test scores of students taught by the alumni of teacher preparation programs.

5 Quality of the Assessment and the Need for Assessment Research

In the quest for accountability and improvement, the consequences of any initiative are key. Sufficient evidence of the validity and reliability of any approach is essential or the policy tool will be as ineffective as past approaches. The importance of validity and reliability evidence is critical to support an initiative, taking into account both the intended and unintended impacts of the evaluation. Of particular importance is the strength of the evidence for each intended use of an assessment, with separate inquiries for the accountability and public reporting uses and for the program improvement use (American Educational Research Association, American Psychological Association, National Council for Measurement in Education 2014). The call for validity and reliability evidence is a long-standing call from within the education professions, with consensus standards of practice (American Educational Research Association et al. 2014). It is also a requirement embedded in U.S. laws and regulations (Pullin 2013, 2001; U.S. Department of Education 2016). But these aspirations often go unaddressed (National Research Council 2001).

To address the requisite levels of evidence needed, a combination of data sources, transparency in the system to optimize utility, and an ongoing monitoring of the evaluation system are all required (Feuer et al. 2013). Since most of the evidence required must be gathered and analyzed at the ground level, the shift requires dramatic changes in teacher preparation programs themselves, as most of them have had little or no capacity for valid and reliable research (Tatto et al. 2016).

Scholars have noted that while educators may be required to justify their own practice with evidence, policymakers often do not find social science evidence useful to their own needs in decision-making (Zeichner 2011; Floden 2006). Instead, policymakers usually employ political solutions to educational problems (McDonnell 2005). And, when U.S. policymakers do rely upon research to inform their own decisions, they often feel such distrust and dismay about the current education system that they tend to discount empirical evidence from education researchers in favor of research from other types of experts (Earley 2011).

Can the unfortunate failure to attain a cohesive relationship between education research evidence, policy, and practice in education be altered?

6 A Window of Opportunity?

Many efforts have been made over many years to make teacher education more effective and more accountable. After each of these efforts, the calls for change persisted. Does the current context offer a “window of opportunity” (Kingdon 2011) for new public policies that could lead to meaningful change? Does the current context call at least for further reflection within the teacher education community? Constantly, policymakers have believed that education should have measurable results and that accountability testing can produce change. Consistently, the use of testing to substantially change education practice has fallen short (Haertel and Herman 2005). Does the current context present a new opportunity?

Implementation of a new approach like the call for teacher performance assessment in Australia can present an opportunity for reflection and perhaps change in teacher education, but only if teacher education embraces the challenges of change. In the U.S., the call from some within the teacher education community for teacher performance portfolio assessment has been deemed by other teacher educators an inappropriate intrusion by those criticized as being an out of touch academic elite (Jordan and Hawley 2016). For these teacher educators, it was seen not as an initiative offering an opportunity for reflection, but instead an imposition requiring resistance.

Teacher education policy changes tend to lag behind other education policy initiatives and, as a result, teacher education often takes the blame for educational failure (Michelli and Earley 2011). Teacher education programs, like most higher education programs, can probably never respond as quickly or as successfully to external mandates as those imposing the mandates desire (Michelli and Earley 2011). Teacher education programs can always be better. Any profession has to constantly seek improvement and the production and implementation of new

knowledge; other professions certainly approach this differently than the education profession (Cumming and Mawdsley 2011; Zeichner 2011). However, in many respects, the problems facing teacher education are not unlike those facing primary and secondary education. External demands based on test-driven accountability have continued unabated. Yet concerns about education quality continue.³ What will lead to real improvement in teacher preparation? Real improvement only occurs when a particular moment is embraced as an opportunity for those doing the work (Bryk et al. 2016).

Evaluating the quality and effectiveness of teacher education is necessary to foster improvement (Feuer et al. 2013). External accountability mandates, through government regulation or accreditation bodies, can sometimes improve the performance of teacher preparation programs and their graduates. But in the U.S., the entire state, federal and professional policy system is decentralized and muddled (Earley et al. 2011). And, in the U.S., there is limited success and great variability in the extent to which external mandates provoke meaningful, rather than symbolic change (Tatto 2015).

In addition, the scholarship on what constitutes effective externally driven teacher education policy is limited (Tatto 2015; Michelli and Earley 2011). Research evidence from several nations on the effectiveness of university-based teacher preparation is mixed, with the need for more valid and reliable evaluation models to improve the performance of preparation programs (Tatto 2015). There is no clear research evidence on what works. It is increasingly clear what does not work. Externally imposed initiatives that separate the research on teacher education and the practice of educating future teachers deprive teacher educators of the capacity to fully improve their own practice. A more promising approach would develop the capacity to generate valid and useable data on and for teacher education programs from within the enterprise without distracting those programs from their core mission (Tatto et al. 2016; Tatto 2015).

There is great promise that teacher preparation programs that adopt research-based approaches can be more effective (Darling-Hammond 2013; Tatto 2015). For teacher education programs, performance assessment approaches, which arise from within the teacher education community based upon research on and analysis of teaching, could have useful impact in improving practice at all levels, supporting organizational learning and self-improvement. Real improvement within teacher education could reduce the press of external mandates.

Both the external and the internal needs for accountability and improvement must be met. Evaluations of teacher preparation programs must address “three basic purposes—holding programs accountable, providing consumer information to prospective students and their potential future employers, and supporting program self-improvement” (Feuer et al. 2013, p. 4).

³It should be noted that neither teacher preparation nor elementary and secondary schools, nor their combined forces, can be fully responsible for the broad range of sociocultural and economic forces impacting educational opportunity.

Assessment has historically been used in education for a range of purposes, including individual placement and selection; to improve the quality of education; and to evaluate the effectiveness of educational programs and policies. More recently, two other assessment purposes have emerged, the use of assessment for shaping public perception and focusing attention on educational reform. These latter are deemed “influencing purposes” (Ho 2014; Haertel and Herman 2005). There have been many efforts in the U.S. in past years to “influence” teacher education. Influencing efforts by external policymakers have not worked particularly well.

Looking at the research on efforts to use accountability to reform elementary and secondary schools to enhance academic performance suggests the need for great caution in relying on the external accountability approach to the reform of teacher education (Tatto et al. 2016). However, in the elementary and secondary context, one new approach to internal reform that has been proposed is the implementation of the type of reform undertaken recently in healthcare practice, the utilization of improvement science approaches for self-improvement. An improvement science approach for reform in education, calls for primary and tertiary institutions to become continuous improvement learning organizations. The call for improvement science and networked learning communities requires dramatic change in educational institutions and a more evidence-driven practice among all educators, including the development of evidence at the ground level (Bryk et al. 2016).

Like much of education, there are real problems in teacher preparation that need to be fixed. If all else fails, the ultimate accountability metric may come into play. Among the factors that count, of course, are the prospective future teachers, the potential teacher preparation students who vote with their feet and their tuition money. In the U.S. in recent years, there has been a precipitous decline in teacher education enrollments (Sawchuk 2014). Some of the declines are due to factors well beyond the control of the teacher education community, like changing economic circumstances and the increased level of sociocultural, political, and economic critique of higher education and of the teaching profession. Some of the declines are inevitably associated with a public perception of the value of teaching as a profession and teacher preparation as a higher education enterprise.

Too much emphasis on proving whether or not a program works in response to external mandates can sometimes distract educators from actually improving practice (Zeichner 2011). Do any of the recent government initiatives in the U.S. or Australia offer the prospect of supporting meaningful change to improve schools and enhance the depth and breadth of meaningful opportunities to learn for *all* students? In the end, what counts? All of the components of the contemporary context give rise to the need for serious reconsideration within the teacher education community about how to do the work and how much work there is to do. To adopt changes like the use of portfolio performance-based assessment or the creation of local-level learning improvement organizations will require considerable hard work from all educators in the effort to infuse these approaches into practice. And, considerable research will be required to establish the validity, reliability, and effectiveness of the endeavors. The external call for educational change presents an opportunity for teacher education to change itself.

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Teacher Education Policy and Practice

Evidence of Impact, Impact of Evidence

Nuttall, J.; Kostogriz, A.; Jones, M.; Martin, J. (Eds.)

2017, XII, 142 p. 5 illus., Hardcover

ISBN: 978-981-10-4132-7