

The Research We Need in Teacher Education

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Prompted by internal and external criticism, demands for accountability, and an authentic desire to better understand processes associated with learning to teach, the field of teacher education—and more specifically, of teacher preparation—is experiencing a vigorous period of change. In some cases, this has resulted in “innovations”—such as current proposals to evaluate and regulate teacher education and preparation programs, reform of the requirements to attain qualified teacher status (QTS), and the creation of systems for evaluating teacher effectiveness—that have been enacted without evidence of potential effectiveness. In addition, because different communities or networks operate using different rules and instruments to achieve intended goals, a persistent problem with respect to teacher education policy and practice is a lack of coherence leading to contradictions in the system.

For instance, in the United States alone, a number of complex networks shape policy and practice in teacher education; these include, but are not limited to, university and non-university-based teacher educators, schools’ policies and practices, including mentoring and induction, educational researchers with diverse scholarly backgrounds (e.g., political science, economics), accreditation agencies such as Council for the Accreditation of Educator Preparation (CAEP), regulatory agencies at the local and federal levels such as the U.S. Department of Education (USDOE), and private advocacy groups such as the National Council on Teacher Quality (NCTQ).

The resolution of contradictions that have emerged out of raising and addressing policy and practice questions in teacher education has in some cases served to move the field forward, but in other cases, has done just the opposite. An international case in point is in England, where the Department for Education has introduced a proposal to reform the current “Qualified Teacher Status” which, if implemented, would effectively transfer the responsibility to judge when a teacher is qualified from university-based teacher education to the school’s headmaster after first undergoing a significant period of school teaching. In some cases, these contradictions are far from resolution as advances in related areas of knowledge and practice (e.g., cognitive science) have revealed the enormous complexity inherent in teaching and in learning to teach. These findings bring into question traditional ways of knowing in teacher education as

well as current notions of what it means to be an effective teacher and by extension, what constitutes an effective teacher education/preparation program.

The role of research at this moment has never been more important as a vehicle that can facilitate learning by examining and reflecting on the “construction and resolution of continuously evolving contradictions” (Engeström, 1987, p. 79).

Contradictions in Teacher Education and the Role of Research

Globally and from a cultural and historical standpoint, teacher education has often involved the resolution of contradictions created by questioning, implementing, and reflecting on the system. The most prominent of these are what the goals and purposes of teacher education should be, who should teach and what should teachers know and be able to do, where and how should teachers be prepared, and how quality can be secured, evaluated, and reported.

In the sections that follow, each of these issues is “unpacked” with respect to the need for research evidence to inform policy and practice directed at improving the preparation and ongoing development of effective teachers.

What Should Be the Goals of Teacher Education?

Much discussion has occurred around whether teacher education’s key goal is to prepare teachers as autonomous professionals able to adapt the curriculum to the diverse needs of students guided by a strong moral compass, whether teacher preparation should be focused on equipping teachers with technical expertise capable of effectively enacting the curriculum and managing classrooms (e.g., differentiating across ability levels), and whether teaching can be considered a craft that evolves through apprenticeship and on-the-job experience. Although many of these goals are not

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mutually exclusive, resolution to these questions depends on answering other important and not mutually exclusive questions such as whether the goal of teacher education should be guided by the knowledge that is important to teach as determined by the school curriculum or by other actors, or by preparation that equips teachers to engage in inquiry-based practice to inform decisions about their teaching, their pupils' learning, and to enable them to fully participate in professional learning communities (e.g., as documented in Finland by Sahlberg, 2011). Furthermore, the goals of teacher education are dependent on conceptions of teaching and learning to teach as a discrete (e.g., short unconnected professional development experiences) or as a lifelong process (Feiman-Nemser, 2001).

These and other equally important questions continue to challenge the field and demand thinking about guiding frameworks. Paufler and Amrein-Beardsley (2016), in this issue, argue along these lines and propose looking at work of scholars such as John Goodlad that provides a vision and moral compass for teacher education and can contribute insights concerning how to better prepare teachers to address the needs of diverse learners. Looking at past work as a way to frame a research agenda for the future, Mills and Ballantine (2016), in this issue, make an argument for socially just teacher education by contributing the findings of a systematic review of the research literature located at the intersection of social justice and teacher education in peer-review journals within the last 10 years.

More research is needed in this area to help move the field beyond unhelpful dichotomies and overly simplistic ideas, and shine light on the highly complex intellectual and situated activity that is teaching and learning to teach.

Who Should Teach and Where and How Should Teachers Learn to Teach?

Although the movement of teacher education to higher education institutions in partnership with schools in the early 1900s seemed to have resolved the question of teacher qualifications and knowledge required to teach, the introduction of recent legislation and alternative routes to certification have again raised dichotomy-type questions regarding what it means to be someone qualified to teach and how and where do/should teachers learn to teach. In the United States, the re-definition of QTS by the No Child Left Behind (NCLB) legislation, as well as similar legislation elsewhere (e.g., England) reinforced the notion that teaching may require minimal or no pedagogical or related preparation. The argument here is that as long as prospective teachers are prepared in their subjects, learning to teach only requires a short period of induction; this argument rests on the false dichotomy between subject matter focus versus classroom management-focused teaching practice in teacher preparation and is part of a movement that has been labeled by some as the "turn

toward practice" (Zeichner & Bier, 2015). An additional consequence of the "minimalist" movement in teacher education is lack of attention to the development of teachers' roles and identities. More than 30 years ago, Buchmann (1986) effectively documented the challenges involved in taking on the role of a teacher, and others have documented the steep process in the creation of a teacher identity, including development of abilities and dispositions needed to teach diverse populations. Although current legislation runs contrary to research evidence (e.g., Furlong, 2013; Good & Brophy, 2000), powerful networks of individuals continue to push such an agenda that constitutes a direct attack on deeper and extended periods in learning to teach such as is promoted by university-based teacher education programs. Thus, the answer as to who should teach and where they should learn to teach continues to be an unresolved conflict affecting the preparation of future teachers and their future pupils.

Two articles in this issue of *Journal of Teacher Education (JTE)* speak to the questions of where and how teachers should learn to teach, while another article addresses the issue of teacher identity. Zeichner, Bowman, Guillen, and Napolitan (2016) analyze a programmatic effort to engage local community members as mentors of teacher candidates in two postgraduate university-based programs with a focus on addressing the needs of children living in poverty. Also in this issue, Sharkey, Clavijo-Olarte, and Ramirez (2016) share findings from a case study involving a school-university professional development partnership focused on how teachers develop, implement, and interpret community-based pedagogies (CBP) in Colombia. Henry (2016) examines the identity transformation of a preservice teacher and contributes the notion of preservice teacher identity as a complex dynamic system and the notion of "being someone who teaches" in dialogical terms involving shifts between different teacher voices.

More research is needed that provides innovative answers to the challenging questions of who should teach, and where and how should teachers learn to teach.

How Should Teacher Education Quality Be Secured, Evaluated, and Reported?

Criticisms of teacher education across the globe emerged after the publication of the Third International Mathematics and Science Study (TIMSS) results (1996 a, b) and have increased steadily ever since. In the United States, for instance, teacher education programs have been subject to regulation and accreditation guidelines since the mid-1950; yet, the question of how to sustain quality in the face of increasing teacher shortages and demanding curriculum standards is an enduring one. The evolution of accreditation agencies from National Council for Accreditation of Teacher Education (NCATE) to Teacher Education Accreditation Council (TEAC) to CAEP chronicle the thinking in the field

and show the range of alternatives from standards- to program-driven evaluations.

High-stakes regulatory systems have materialized globally geared toward developing common metrics to evaluate teacher education and preparation programs under the assumption that these policies will help secure quality programs and improve the overall quality of education. Research is needed to test these assumptions and to better understand the intended and unintended consequences of increased regulation for the variety of existing programs and for the field as a whole. Few authoritative studies exist that have fully engaged teacher educators in seeking to address these questions using teacher education program theory, but these could serve as models for how to assess teacher education outcomes (e.g., Tatto & Senk, 2011, and other pieces in the same 2011 *JTE* issue), as illustrated by Konig and colleagues in this issue as described below.

Responding to high-stakes accountability demands, under the principle that studying one's own program brings about organizational learning, also has introduced important contradictions into the system. The most important of these arises from the need for a dedicated group within teacher preparation programs with the expertise to design viable systems and to collect formative and summative data; yet, because this effort may end up consuming needed resources and requires specialized expertise, programs are increasingly hiring outside help (Tatto, Krajcik, & Pippin, 2013). While important research exists, contradictions have also emerged from the lack of consensus about what it means to be an effective teacher and how to measure it; or the characteristics of an effective teacher education/preparation program and how to measure them. But although there is much conflict, there is also agreement that research on teacher education is needed to find ways to determine when someone is ready to teach and when a teacher education program is of high quality.

Two articles in this issue illustrate different but equally valuable approaches to evaluating and reporting teacher education outcomes. Barnes and Smagorinsky (2016) use a sociocultural perspective to study the learning of teacher candidates in three different U.S. teacher preparation programs as mediated by a host of factors, which in some cases, introduced competing conceptions of effective teaching. The article by Konig et al. (2016) uses a different approach by directly assessing the knowledge needed to teach English among German preservice teachers. Their findings suggest that variability in outcomes reflects differences in learning opportunities candidates had in their program, a conclusion that may help direct program efforts in the future.

Given the high stakes that are placed on securing quality in teacher education and on evaluating and reporting results, authoritative and knowledgeable research in this area is of crucial importance.

The Need for High-Quality Research in Teacher Education

Although there has been important work done in educational research, the problematic quality of educational research in general and in teacher education more specifically has been widely acknowledged. Close to 15 years ago and with support from the National Academy of Sciences, the education research community agreed on six interrelated principles of scientific inquiry in education (Shavelson & Towne, 2002): the posing of significant questions that can be investigated empirically, the need to link research to relevant theory, the use of methods that permit direct investigation of the question, the need to provide a coherent and explicit chain of reasoning, the ability to replicate and generalize across studies (e.g., the need to assure reliability and representativeness), and the disclosure of research to encourage professional scrutiny and critique. Although not explicitly mentioned, attention is needed to address issues of validity (e.g., of problem statement and concept definition, instrumentation, sampling, interpretation, and conclusions). These conditions must apply to research on teacher education and preparation and equally to qualitative and quantitative research and to research using the methods of the social sciences and of the humanities. In addition, proof-of-concept studies are needed before implementing large-scale interventions, and the results of these studies should be reported as well.

Research in teacher education must strive to be rigorous, relevant, innovative, and current. Much needed, for instance, are reviews of the state of accumulated research-based knowledge in teacher education and teacher learning on the job, and on past and present policy affecting the education and preparation of teachers, to help us understand the key ideas that have defined the field, and to move beyond revisiting familiar research ground.

Effort is needed in neglected areas such as how best to prepare teachers to reach disadvantaged marginalized children and youth and on how to develop resourceful teachers who know how to teach in challenging contexts. Research is needed on how to prepare excellent early childhood education teachers, on how to approach the teaching of ethics and social responsibility in teacher education, on how teacher educators may better prepare future teachers for leadership and innovation, and strategies for making sense of schools as organizations and places for human development.

The most important consideration for educational research in teacher education is what problems are worth investigating using the best tools available in the production and dissemination of usable knowledge for the common good.

Editors' Note

As of August 2016, Maria Teresa Tatto is now the Southwest Borderlands Professor of Comparative Education at the Mary Lou Fulton Teachers College and professor in the Division of Educational Leadership and Innovation at Arizona State University.

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