Fostering a New Approach to Research on Teacher Preparation
Results of the First Convening of Researchers, Practitioners, and K–12 Educators

By Jenny DeMonte

We know that the most powerful, in-school influence on learning is the quality of instruction that teachers bring to their students; therefore, preparing new teachers well is crucial to student achievement (Chetty, Friedman, & Rockoff, 2014; Rivkin, Hanushek, & Kain, 2005; Rockoff, 2004). Recent research on graduates of teacher preparation programs suggests that some programs are producing new teachers who are more capable than others (Boyd, Grossman, Lankford, Loeb, & Wyckoff, 2009; Goldhaber, Krieg, & Theobald, 2013; Henry, Patterson, Campbell, & Yi, 2013). Although these studies point to differences in the graduates' abilities, they generally do not provide actionable data about specific components of teacher preparation that are related to graduates' capabilities. Some studies have examined components or structures of particular programs to determine whether these programs help train new teachers who are more capable than others (Goldhaber, Krieg, & Theobald, 2017; Ronfeldt, 2012, 2015; Ronfeldt, Schwartz, & Jacob, 2014). These studies are helpful to teacher preparation providers, but at the same time, they leave teacher educators in need of more information.

Why? Although there is a growing body of research designed to facilitate understanding of teacher preparation, the studies are not always useful to preparation providers because the outcomes—performance of graduates after they have begun teaching—emerge long after teacher candidates have left preparation programs. Teacher educators do not want to wait until their graduates have entered the field to learn about the effectiveness of their teacher training programs. These studies also may not offer information about precisely what activities and experiences within a preparation program have an impact on what teacher candidates know and can do.

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To help foster the kind of research that providers seek to help them improve their programs, in April 2017 American Institutes for Research (AIR) brought together 35 researchers, teacher preparation providers, and school leaders to discuss how to design research that would answer these questions. Many participants remarked that this was one of the few times they had been part of such a diverse group to discuss strategies for improving teacher preparation. The work was challenging; providers,

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researchers, and school leaders often approach the same question from very different viewpoints, and bridging these perspectives requires collaboration and time. Yet, over the course of the day, participants found areas in which they could work together on shared questions and study designs.

The purpose of the meeting was not to arrive at a conclusion or to make recommendations about how, specifically, research should be designed and carried out. Rather, the objective was to give providers and researchers the chance to discuss ideas and opportunities for future projects. This report synthesizes the conversations and collaboration that took place during the April meeting, in the hope that it will provide ideas about designing research to improve teacher preparation programs, using providers' questions as a starting point. Participants first discussed the features of research that could inform improvement in teacher preparation. Then they considered challenges to that research. Finally, the participants prioritized research questions on several topics.

What features of research might yield findings that are useful to providers?

As a first step in considering research designs that might yield information to support program improvement, participants offered ideas for guiding themes that would run through the designs; then they described the themes with more specificity. The participants discussed the following themes: *nuanced, actionable, formative,* and *contextualized.*

Nuanced

For providers, research on teacher preparation should focus on an aspect of a program and lead to information about how it works to support the training of teacher candidates. This likely means that the research is designed to investigate a specific issue or question, and that it takes a fine-grained approach to considering both the program component and its effect on teacher candidates. Such research would recognize that any program is part of a larger continuum. Nuanced research should take into account the possibility that there may be differences in how the program component is implemented, and that the difference in its effect on teacher candidates might be small. Regardless of the magnitude of the difference, providers remarked that knowing about variability in effects is important for understanding how to change aspects of a teacher preparation program.

Nuanced research is not big, broad, or overly simplified. It would not be conducted from a big-system perspective, nor would it reach a one-size-fits-all conclusion. For example, a nuanced study might measure the effect of a single unit within a course on math pedagogy by observing whether teacher candidates could enact the pedagogy they were taught. Researchers could then collect more data by surveying teacher candidates to find out how their coursework helped them enact instruction. This kind of information could help teacher preparation providers know which parts of a program are successful and which may need to be improved.

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Actionable

Actionable research would be purposeful and expedient. It would offer information about a program component in a timely manner, and it would be proximal to the part of the program being tested. Actionable research would be designed to be useful to a specific group of people for a specific purpose. In other words, the research did not come about as a result of a data-mining activity but, rather, was created with the end user in mind. Although the research possibly could be conducted at a broad level, many providers seek micro-level studies that are closer to the work of delivering teacher training to teacher candidates.

For providers, actionable research would not be designed from the top down, but instead would be oriented toward a need held by providers who are working in the field. The research would be created by both providers and researchers, and the design itself could be unique to the program, rather than having the program fit into a preconceived research design. At its core, actionable research would be user-centric because the ultimate goal would be to give practitioners information they can use.

At the end of the discussion, researchers and providers settled on the following definition: *Actionable* is a quality of research that is valid and purposeful to a variety of constituents who are willing to take risks to use the findings to understand impact and implement change.

Formative

For research to be formative, it should be designed with an eye toward continuous improvement. The research should be able to detect change, and the findings should be able to inform developmental change in a program. Formative research should be iterative. The group cited timeliness as a key feature of formative research—noting that providers would quickly gain information from such studies, enabling them to feed what they have learned into program improvement. The discussion participants willingly relinquished any notion that a formative study should be conclusive and acknowledged that such a study should inform continuous change. However, they embraced the notion that improvement science embraces: "We cannot improve at scale what we cannot measure."

Contextualized

The consensus was that context exists everywhere in teacher preparation—from the identities of the teacher candidates and the teacher educator, to the program structure, to the settings in which candidates learn to teach, to the rules and policies of the preparation program. However, the varied and complex contexts should not stand in the way of carrying out research that is useful to providers of teacher preparation. As researchers approach their work, they should be ready to account for varied contexts.

What challenges do providers and researchers face when conducting such studies in teacher preparation?

These challenges varied widely, and they stemmed from participants' individual workplaces and contexts. However, the list offered by participants could be organized into three overarching categories.

Challenges inside institutions in which programs exist

Universities with teacher preparation programs or associated with alternative preparation programs usually have requirements that present challenges to doing actionable research. Some providers are required to earn national accreditation, and fulfilling the accreditation requirements can absorb resources and energy that might have been devoted to research. Within universities, it is possible that research on preparation is not valued. Lack of resources to engage in such research is a problem that could affect all providers, whether this means a lack of financial support or not having a research partner or staff member to carry out the study. There might also be fear that a study would yield negative findings or reveal weaknesses in a program that eventually might be shared with others in the community.

Challenges grounded in the partnerships that providers have with K–12 schools

Participants also discussed challenges that might arise while trying to collect data during a candidate's clinical experiences. School officials who host student teachers during their clinical training may view a research study as yet another burden and demand on their work. They may see it as taking up time that could be better spent on other activities, whether related to student teachers or some other need. Mentor teachers may be concerned that research might show that a student teacher in a particular classroom is not performing as well as others, which might cause administrators to question the ability of the mentor teacher. The teacher preparation provider may be challenged to conduct research given the variability in clinical placements. Both providers and school officials may see the logistics of enacting a research study as overly burdensome.

Challenges stemming from the research activity itself

Other challenges are inherent in the activity of doing research. Traditionally, teacher preparation providers and researchers have taken on familiar roles with respect to studying the impact of teacher training. Providers use their practice-based knowledge to implement the preparation program, and researchers are outside the delivery of preparation; they collect and analyze data about it. These differing roles, which have similar counterparts in K–12 education research, can be barriers to conducting useful research. According to Bryk and Gomez (2008), the interests of the researchers

inside a university may differ from those of practicing educators, and the same varying interests may exist between researchers and teacher educators, whether or not the researchers and educators are at an institution of higher education. Bryk and his colleagues (2010) have called for transformation of K–12 research design and activity that will bring practitioners and researchers into a design–engineering–development enterprise related to schooling (Bryk, Gomez, & Grunow, 2010). A similar transformation may be necessary in research on teacher preparation to align research and practice interests.

Topics and Questions

Before the convening, AIR staff spoke with a representative from every provider invited to attend the first convening to learn what questions they would like to probe through research. The providers represented the range of teacher preparation programs: traditional and alternative, varied geographical and demographic contexts, and program size. Their ideas were organized into five general categories:

- Selection of candidates into teacher preparation
- Diversity in teacher preparation
- Coursework
- Clinical experiences
- Skills necessary to be a teacher educator

After considering the features of more useful research in teacher preparation and listing the challenges to such research, participants brainstormed and then prioritized potential research questions within each topic. Finally, the entire group considered the questions to determine which represent the highest needs in the field, which have the greatest potential for strengthening teacher preparation, and which would be likely to engage more partners to work collaboratively.

Selection of candidates into teacher preparation

Overwhelmingly, participants said that the field needs to know more about how an applicant's knowledge, characteristics, and previous experience are related to and predict their future success in teacher preparation. This was deemed a more important area to study than other aspects of selection, such as what kind of recruitment efforts increase applications and how policy might affect candidate selection.

Diversity in teacher education

Several research questions on this topic touched upon different aspects of supporting diversity among teacher candidates and training to teach diverse students. Participants believe that finding answers to the following question would serve the highest need in the field and have the potential to strengthen teacher training: *What are the features of teacher preparation programs that attract diverse teacher candidates?*

Participants gave high marks to the following question, which relates to teaching diverse students: *How do different texts and activities in teacher preparation influence the candidates' understanding of the students they teach?* Participants mentioned that research on this question was important for the field, that it could strengthen teacher training, and that it likely would inspire collaboration among practitioners.

Coursework

This topic refers to the courses that the teacher preparation program offers to candidates. In traditional programs in institutions of higher education, these could be semester-long courses on methods for teaching a particular subject. In an alternative program, they could be master's degree courses or a set of courses that do not lead to a degree but are required of all teachers by the state.

A question of particular interest to participants concerned candidates' skill in responding to differences in student abilities. The question—*How do teachers learn to gather necessary information regarding student differences in abilities to do a particular task?*—was deemed important to the field and a question for research that is likely to bring together collaborators.

Participants noted that the following question was the most important in this category and that it could lead to improvement in teacher preparation: *In what ways do clinical placements and coursework operate together to support candidate learning of a particular teaching skill?* The thinking behind this question is that teacher candidates can learn how to enact a particular skill in a course and rehearse it there in front of other teacher candidates; then they can enact it in the field. But what arrangement of coursework with clinical training is most effective at teaching candidates particular skills?

Clinical experiences

The same thinking about the relationship between clinical experiences and coursework also emerged in questions related to the kind of fieldwork that teacher candidates undertake. Participants gave the following question high marks for its power to improve teacher preparation: *How important is the alignment of clinical experience to the goal of a course taken during the same time period?* For example, participants mentioned taking a course on literature teaching methods while doing clinical training in a science class. Is there a more optimal pairing of coursework and clinical experience?

Participants believe that teacher educators need to know more about the qualities of mentor teachers to improve teacher preparation programs. They identified the following question as essential to probe: *How do the characteristics of mentor teachers influence preservice teacher success?* The question is broad and could be approached from several perspectives, examining characteristics such as years of teaching experience or skills in coaching adults. Another aspect of the characteristics of mentor teachers could be whether the mentor has received training to support teacher candidates, training that perhaps could be delivered to mentor teachers through the teacher preparation program.

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Skills necessary to be a teacher educator

Whereas the other topical questions examined how to build skills in teacher candidates, this one considers the skills and knowledge that teacher educators need. This topic encompasses what adults who work in teacher preparation need to know and what they need to be able to do in order to teach other adults to teach. The questions prioritized by participants spanned a range of perspectives. Participants focused on teacher educators working inside a teacher preparation program, rather than others who support teacher candidates but work in a K–12 school or district.

The following questions were at the top of the list presented by participants: *How can we measure the effectiveness of teacher educators? What kinds of pedagogies are effective at training teacher candidates?* Next, the group suggested that a key area for investigation is learning how to help all teacher educators implement effective teacher preparation pedagogies. Participants also expressed interest in knowing what kinds of skills and experience contribute to a teacher educator's ability to teach future teachers.

Next Steps

In the 6 months after the initial convening, participants will work on research designs that grew from the conversations with others at the convening. Teacher preparation providers and research partners will write concept papers that describe the research they hope to undertake. When we reconvene in October 2017, participants will share designs and offer suggestions to strengthen what we hope will lead to studies that can inform providers and help them improve teacher preparation.

About the Author

Jenny DeMonte is a senior technical assistance consultant who specializes in teacher preparation and licensure. She has worked on research and policy issues related to teacher quality and school improvement for more than two decades.

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