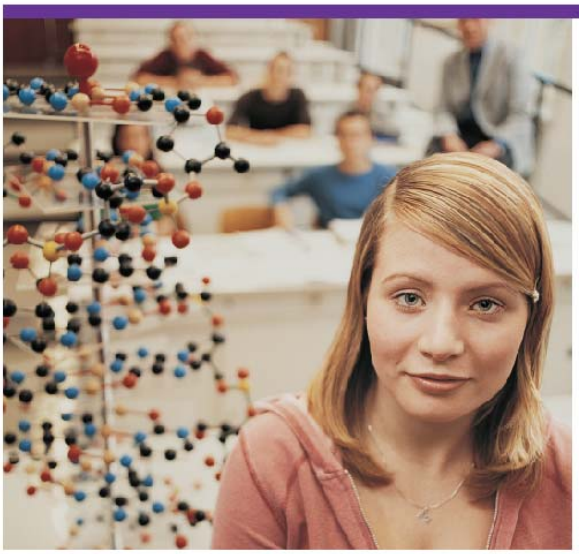

Teaching as a Clinical Practice Profession:

Implications for Teacher Preparation and State Policy

ISSUE BRIEF

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Understanding the Work of Teachers as Clinical Practice

Art Levine, in his study of schools of education, described a schism between those who believe that teaching is a craft and those who believe that teaching is a profession (Levine, 2006). A craft, such as journalism or auto mechanics, is learned primarily on the job, through practice. A profession, on the other hand, such as law, architecture, or accounting, requires extensive in-class preparation before an individual is given full access to practice—that is, allowed to work on one's own, directly with clients. These two divergent understandings of teaching—craft versus profession—have vastly different implications for the education and ongoing support of teachers, and, Levine argues, this has harmed the field's ability to prepare teachers well.

Some education leaders propose a third view: that teaching instead should be properly conceived of as an academically taught, *clinical practice profession*,[1] similar to clinical psychology and medicine. Such a view of teaching may help mend the sharp conceptual divide that Levine and others (e.g., Ball, 2008; Zeichner, 2003) have described and may provide a curriculum for teacher education reform in the 21st century.

This Issue Brief,[2] written through a collaboration between two federally funded technical assistance and research dissemination centers, the New York Comprehensive Center (NYCC) and the National Comprehensive Center for Teacher Quality (TQ Center), describes what "teaching as a clinical practice profession" means to those in the field of teacher education (as well as those who are keen observers of the field) for three purposes: 1) to inform the Institutions of Higher Education/Teacher Quality Initiative at NYCC; 2) to extend the conversation about the teaching profession beyond institutions of higher education to a wider policy and practice audience; and 3) to bring coherence to our own understanding of what a clinical practice profession means so that the TQ Center and NYCC can better support states and regions in improving teacher quality.

In this Issue Brief, we first outline five major components of a clinical practice profession and then discuss how these components relate to the work of teachers and what we understand about the preparation of teachers as clinical practice professionals. We conclude by describing efforts around the country to improve the clinical preparation of teachers.

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[1] The Carnegie Corporation of New York has been the primary proponent of this idea through its Teachers for a New Era initiative (see http://www.teachersforanewera.org/). Others have championed the Carnegie idea as well. See ETS, 2006; Hinds, 2002 (http://www.carnegie.org/pdf/teachered.pdf); and Kennedy, 2003 (http://www.google.com/url?sa=t&source=web&ct=res&cd=5&url=http%3A%2F%2Frepublicans.edlabor.house.gov%2Farchive%2Fhearings%2F108th%2F21st%2Fteach52003%2Fkennedy.htm&ei=dbpbSfKzEJTS8wTn1vSHDQ&usg=AFQjCNHL1sLbZDWOb0xsV7M_HEYhFCAWQQ&sig2=ayjRVLtD_bUZOUq9ASRFKw). Darling-Hammond & Sykes (2002) also edited a book that has a series of chapters that explore the notion of teaching as grounded in practice. The Aspen Institute, the Center for Teaching Quality, and the National Council for the Accreditation of Teacher Education also are very interested in urban teacher residencies as a "third way" for teacher preparation, which are based on some principles of teaching as a clinical practice profession (http://www.teachingquality.org/utr).

[2] The authors of this issue brief are listed alphabetically as both contributed equally.

What Is a Clinical Practice Profession?

Through a systematic review[3] of the literature on teacher and medical education, we identified the following five key characteristics of a clinical practice profession:

- **Centrality of Clients.** Clinical practice involves the direct observation and treatment of patients or clients (Merriam-Webster, 2006). Successful outcomes in clinical practice are dependent not only on the skill, knowledge, and actions of the practitioner but also on the commitment and actions of the client (Cohen, 2005).
- **Knowledge Demands.** The work of clinical practice professionals is highly complex, requiring general and specialized knowledge and skills as well as theoretical, practical, and technical understandings not possessed by laypeople (Shulman, 1998). The ability to learn from experience also is critical in such a profession (Ball & Cohen, 1999).
- **Use of Evidence and Judgment in Practice.** In clinical practice professions, determining the best course of treatment requires knowing an individual client (through observation, questioning, and other diagnostic or evidence collection techniques) as well as knowing what research has shown to work with other clients in similar situations. Members of clinical practice professions ought to follow evidence-based standards of practice (Glasziou, 2005; Sackett, 1995), but when the evidence is incomplete, ambiguous, or missing, the "unavoidable uncertainty" of nonroutine elements of practice requires the exercise of expert judgment (Shulman, 1998).
- **Community and Standards of Practice**. Clinical practice professions form a professional community that monitors quality, distributes knowledge, and creates standards of practice (Darling-Hammond, 2006; Shulman, 1998). Professionals and professional organizations, including training institutions, are held accountable to these standards of practice.
- **Education for Clinical Practice.** Prior to being granted full access to practice, clinical practice professionals must successfully complete rigorous academic and practical training (Shulman, 1998). Candidates must learn to work effectively with clients, obtain a high degree of knowledge, understand how to use evidence and judgment in practice, and comprehend and value the standards of their respective professional communities. The education of clinical practice professionals comprises at least three basic components: 1) academic grounding, 2) practice-based training, and 3) ongoing learning. Note importantly that clinical education extends beyond a preservice phase.

In addition to the characteristics listed above, Shulman and others would argue that there also is an important moral dimension to the work of clinical practice professionals and that the goal of any such profession is service to others and the pursuit of valued social goals (see Osguthorpe, 2008; Shulman, 1998; and Swick, 2000 for important discussions of this aspect of clinical practice professions).

[3] This review was conducted using the ERIC and EBSCO databases with keyword searches including "clinical practice profession," "clinical practice," "teacher preparation," and "medical preparation."

Parallels Between Teaching and Clinical Practice

Centrality of Clients in Teaching

Teaching is similar to other clinical practice professions in that effective practice depends not simply on the skill, knowledge, and will of the professional but also on the inclinations and actions of the client, patients, and, in this case, students (Cohen, 2005; Grossman, Hammerness, McDonald, & Ronfeldt, 2008). The quality of relationships that are built between teachers and their students are, therefore, of central importance (Grossman & McDonald, 2008; Pianta, Hamre, & Stuhlman, 2003).

To build productive pedagogical relationships, teachers may need more than just classroom management skills, the ability to create a high-quality learning environment, and even what Kounin called "with-it-ness" (Irving & Martin, 1982; Kounin & Sherman, 1979). They also must know their students and the content well and be able to productively build connections between the two. Grossman and McDonald contend that a better understanding of the relational aspects of practice would be "particularly useful in preparing teachers [to work] effectively with students who differ from them in terms of race, ethnicity, socioeconomic status, and language" (p. 188).

Knowledge Demands in Teaching

Teaching, like other clinical practice professions, is a complex activity; and much of the complexity is invisible to those being taught (Ball, 2008; Darling-Hammond & Baratz-Snowden, 2007; Lortie, 1975). Simply put, excellent teaching is harder than it looks and demands more than just tricks of the trade. It requires both specialized and general knowledge, not ordinarily found among lay individuals (Cohen, 1988).

There have been many efforts to enumerate what teachers must know and be able to do (e.g., Darling-Hammond & Bransford, 2005; National Board for Professional Teaching Standards [NBPTS], n.d.; Interstate New Teacher Support and Assessment Consortium [INTASC], 1992; Scriven, 1994). Below is an abbreviated set of essential aspects of teacher knowledge that are most frequently mentioned:

- Teachers must know their subject deeply and flexibly (Dewey, 1904); in other words, they must know their subject in ways that allow them to carry out the work of teaching (Hill, Schilling, & Ball, 2004).
- Teachers must understand how children learn and how their learning styles vary, just as surgeons must understand anatomy and physiology and how they vary (Darling-Hammond, 2006).
- Teachers must have knowledge of pedagogy—how to manage a classroom, how to assess understanding, and how to implement a wide repertoire of instructional strategies to reach diverse learners, including students with disabilities and English language learners.
- Teachers must have what Shulman (1986; 1987) coined as pedagogical content knowledge, or the understanding of how particular content topics, problems, or issues need to be organized, represented, and adapted to the diverse interests and abilities of learners.

One can easily expand this list, for no less important is perhaps that teachers should have an understanding of the social forces that affect student learning, how to respond effectively to the latest reform effort, how to collaborate with other teachers and related service providers, and how to use instructional technology productively, to name a few. Unfortunately, researchers have been unable to determine precisely the knowledge necessary to teach effectively—that is, to produce high student learning outcomes (Grossman & McDonald, 2007; National Mathematics Advisory Panel, 2008), though it stands to reason that the more teachers know, the more resources they have to draw on to help learners (Cohen, 2008).

Use of Evidence and Judgment in Teaching

In teaching, as in other clinical practice professions, a strong body of general and specialized knowledge is necessary but not sufficient because of inherent uncertainties in clinical practice. As stated earlier, a teacher also must know his or her students well (see Hansen, 1999; INTASC, 1992; NBPTS, 2001; Paley, 1986). This requires that teachers gather information on their students' backgrounds, interests, and learning styles and that they diagnose student strengths and difficulties. Armed with this evidence, teachers can begin to use their judgment to effectively engage and motivate learners and strategically build on students' prior experiences and knowledge. Most importantly, teachers must analyze the impact of their own practice on student learning outcomes. Interpreting evidence of growth in student learning—and knowing what to do if a student is or is not making progress—is one of the most difficult tasks teachers encounter (Heritage, Kim, Vendlinski, & Herman, 2008).

Professional Communities and Standards of Practice in Teaching

Many individuals in the teaching profession are trying to change the idea that good teaching is simply a matter of personal style and individual commitment (which has been widely suggested in the mainstream media; see, for example, Gladwell, 2008; Kristoff, 2007). Along with a number of professional associations (such as the National Academy of Education Committee on Teacher Education, the National Council for Teachers of Mathematics, the NBPTS, the Teacher Education Accreditation Council, and the National Council for the Accreditation of Teacher Education), teacher educators and teacher education researchers are working to articulate a knowledge base of best instructional practices based on rigorous research and expert judgment. To ensure that all teachers acquire and can demonstrate a facility with this knowledge base, specific and well-articulated standards for professional practice, with rubrics that clearly discriminate between acceptable and unacceptable practice, must be widely and consistently implemented. Such an effort will be instrumental in building a robust professional community.

This task, however, is an immense challenge. First, the pace of innovation in education is rapid, and the sheer number of teachers who need access to this knowledge is larger than all other professions. Second, education research is funded at lower levels than most other fields. Third, the long tradition of teachers working isolated in classrooms, without common methods of performance evaluation, has discouraged the development of a strong professional community. Nevertheless, the professional teachers associations that do exist have been growing stronger, and there is support both within and outside the community to find ways to systematize practice

(e.g., Raudenbush, 2008) and hold teachers accountable for the quality and effectiveness of their teaching (e.g., Sawchuck, 2008).

Education for Clinical Practice

To enter teaching as a clinical practice profession, novice teachers, just like novice doctors, should gain the necessary academic grounding in the discipline and participate in meaningful, practice-based training in the classroom. Even after a rigorous preparation sequence, however, they must continue to engage in regular learning opportunities to strengthen their practice.

Academic Grounding. Novice professionals must have the opportunity to acquire the "conceptual base" of a profession—its underlying theoretical, empirical, and normative knowledge—through high-quality coursework (Shulman, 1998; Zeichner, 2003). As Darling-Hammond (2006) points out, we would not likely allow doctors to practice without knowledge of anatomy and physiology. In the same way, we should be wary about allowing teachers to teach without a thorough understanding of their subject matter and the way that children learn. Nevertheless, although other professions, such as medicine and law, have had some success in codifying the essential conceptual base for practice (although debate persists even there—see, for example, Dienstag, 2008), there remains a considerable lack of consensus in the teaching field over the critical academic grounding required to be successful in the classroom and what academic coursework is necessary to deliver that conceptual base (Levine, 2006; Zeichner, 2003). There are efforts to achieve that consensus, however, based on empirical research (e.g., Darling-Hammond & Bransford, 2005; Snow, Griffen, & Burns, 2005; Zeichner & Cochran-Smith, 2005).

Practice-Based Training. Teachers, like other clinical practice professionals, also must learn to transform knowledge gained through coursework into skilled practice so that they can effectively work with clients in the field (Grossman, Compton, Ronfeldt, Shahan, & Williamson, 2005; Neville, Sherman, & Cohen, 2005).

Training in practice is guided by what Shulman (2005) calls, "signature pedagogies"—experiences that expose candidates to the complexity of everyday life as a practitioner (like morning reports and teaching rounds in medical education or the examination of cases in the education of lawyers). In teacher education, such pedagogies within the university classroom may include role playing, collaboratively analyzing written cases, and studying records of practice such as samples of student work or videos of teachers teaching. These activities often take place in methods courses, where teacher candidates have the opportunity to view "representations of practice," break down the complexity of practice into manageable parts, and refine complex, clinical skills (Grossman & McDonald, 2008).

Signature pedagogies in clinical settings usually include field experiences tied to methods courses and some sort of student teaching. Often, novices in the field are exposed to graduated levels of learning experiences (Darling-Hammond, 1990; Foote & Cook-Cottone, 2004), receive formative evaluation and feedback, and have opportunities for reflection. Many argue that only through deliberate, guided practice—highly structured and monitored activities to improve performance—can novices develop professional reasoning (Darling-Hammond, 1990; Ericsson,

Krampe, & Tesch-Römer, 1993; Shulman, 1998), that is, the ability to attend to the complexities of interaction with clients and to respond in the moment to conditions of uncertainty **(**Grossman et al., 2005).

Some experts argue that practice-based training in teacher preparation programs is varied and idiosyncratic (Levine, 2006; Shulman, 2005). Shulman asserts that there are few widely practiced "signature pedagogies" in teacher education besides the student teaching experience (Shulman, 2005). But even student teaching requirements vary in terms of depth, breadth, and duration (Allen, 2003; Foote & Cook-Cottone, 2004; Wilson, Floden, & Ferrini-Mundy, 2001) and the degree to which they are aligned with university coursework (Grossman et al., 2008; Wilson et al., 2001).

Practice-based training experiences are likely to be of higher quality when preparation programs are partnered with local schools or districts, much like "teaching hospitals" in the medical profession. In high-quality, productive partnerships, individuals from both teacher preparation programs and schools collaborate in defining expectations for novices and developing learning experiences and support structures that assist them in meeting these expectations.[4] But building a high-quality partnership for practice-based training is a tremendous challenge. It is difficult to identify a local school with the similar norms as the preparation program and the capacity to support developing teachers (Wilson et al., 2001).

Continued Learning

Once clinical practice professionals complete their preparation sequence, their obligation to learning does not end (e.g., Institute on Medicine as a Profession, 2009). Many advocate for an extended and deliberate induction period for teachers in their first few years on the job (NCTAF, 1996; New Teacher Center, 2007). An emerging research base suggests that these induction programs, as long as they are comprehensive and do not rely simply on mentors, have the potential to improve teacher retention (Smith & Ingersoll, 2004) and student achievement (Villar & Strong, 2007).

However, professional learning should extend well beyond even an induction phase. Because teaching, like other clinical practice professions, is highly complex, teachers must receive regular, relevant professional development, ongoing opportunities to learn from their peers in communities of practice, and the chance to consistently reflect on and improve their own practice. Furthermore, because the knowledge base of a profession is always growing, a clinical practice professional must have the disposition and opportunity to continue to learn. Relatively recent instructional innovations, such as response to intervention (RTI), reciprocal teaching, and

[4] Medical centers that train novices are distinct from local schools that partner with preparation programs in that most medical centers have faculty whose primary responsibility is to advocate for medical students doing their clinical rotations. Much of the day-to-day work of such center faculty is dedicated to the training of students with the result that the medical students and residents are as much a product of the institution as the clients are. In education, this would mean that a partnership school called Green Briar Elementary would be as much in the business of educating Grades K–5 students as it would be in educating adults for teaching practice.

advanced instructional technologies, require teachers to acquire new knowledge and sets of practices to incorporate into their teaching repertoires.[5]

Although states across the country have acknowledged the need for induction programs in the first few years of teaching, only about 1 percent of teachers have the opportunity to participate in the types of comprehensive induction programs that significantly improve teacher retention rates (Smith & Ingersoll, 2004). Similarly, although all states require some sort of professional learning opportunity for experienced teachers, they are too often single, isolated workshops that are not connected to teachers' clinical practice (Johnson, Berg, & Donaldson, 2005).

Supporting Teaching as a Clinical Practice Profession

Several innovative initiatives across the country exist that envision teaching as a clinical practice profession and emphasize the need for high-quality clinical practice in teacher preparation. Although they have yet to gain the status of proven best practice, they are efforts that should be watched and potentially replicated.

Teachers for a New Era

The Teachers for a New Era (TNE) program is one such initiative. TNE, funded by the Carnegie Corporation, Ford Foundation, and Annenberg Foundation, seeks to create exemplary teacher preparation programs that view teaching as "a clinical skill…[that] occurs principally with clients (pupils) in clinics (classrooms)" (TNE Prospectus, 2001). To participate in TNE, teacher preparation programs must demonstrate that they provide rigorous preparation in the academic grounding of the discipline, that is, "the historical, philosophical, sociological and economic foundations of education" and in subject matter knowledge, supported by arts and sciences faculty. Most importantly, institutions must exemplify solid practice-based training, because "pedagogy lies at the heart of education" (2001). They should expose novice teachers to clinical settings where they can learn how to assess and use evidence of student learning to continually adapt instruction to student needs.

To support practice-based training, preparation programs receiving a TNE grant must develop strong collaborative relationships with practicing schools similar to the relationships between medical schools and university-based or university-affiliated "teaching hospitals." These partnerships ensure that novices in a profession are exposed to exemplary teaching and have the opportunity to practice pedagogy under the continuous feedback of master teachers. A unique component of TNE is its requirement that grantee preparation programs also support academy-based induction, which takes place in the first two years of teaching. During this induction experience, teacher education faculties help to ease a novice teacher's entry into the profession by providing continued learning opportunities, mentoring, and supervision. The lessons emerging from these interactions help to positively inform the teacher preparation program and to improve it over time.

[5] If teaching is envisioned as a clinical practice profession, teachers should incorporate these instructional innovations into their teaching only to the extent that they are supported by empirical evidence of their effectiveness and by the community's high standards of practice. As it stands, many instructional innovations are adopted even though there is a lack of empirical evidence and expert consensus on their worth.

An evaluation of the TNE program conducted by the RAND Corporation and the Manpower Demonstration Research Corporation (Kirby, McCombs, Barney, & Naftel, 2006) showed that TNE design principles and conceptions of teaching as a clinical practice profession were infusing into the organizational cultures of participant institutions. The authors of the report cautioned, however, that advancements would be slow and incremental. The initiative has yet to publish comprehensive findings on the impact of program features on teacher retention and pupil learning; however, all TNE institutions are engaged in collecting and sharing evidence of impact.

Urban Teacher Residencies

Another teacher preparation effort that incorporates many of the principles of teaching as a clinical practice profession is the Urban Teacher Residency (UTR). Similar in structure to a medical residency, though perhaps less extensive and tightly structured, it has been billed as a "third preparation pathway" in addition to "traditional" and "alternative" options. The most mature models are currently operating in three cities—Chicago (Academy for Urban School Leadership), Boston (Boston Teacher Residency), and Denver (Boettcher Teachers Program) (Gatlin, 2008), and pilot residency programs are underway in cities such as Washington, D.C., and New York (see, for example, http://gsehd.gwu.edu/UrbanTeaching).

With the understanding that novice teachers require tightly integrated academic grounding and practice-based training, a UTR provides coursework that is embedded within clinical experience. Such clinical experience is accompanied by intensive mentoring and support from expert, trained teachers and offers a graduated level of experiences for novices in the classroom. Most UTRs emphasize partnerships between teacher preparation programs and Grades K–12 schools that ensure that residents' coursework is particularly tailored to their experience in urban schools. Furthermore, UTRs emphasize continued learning opportunities and sustained support, even after residents become teachers of record through comprehensive induction and mentoring programs (Berry, Curtis, Hernandez, Montgomery, Snyder, & Wurtzel, 2008).

Although UTRs do not yet have independent data showing the effectiveness of their graduates in improving student learning, they do report strong administrator ratings and high retention of graduates. When asked to assess the effectiveness of Boston Teacher Residency graduates, 88 percent of principals said that they were as effective or more effective as those who had been trained through traditional and alternative routes. In addition, compared with 30 percent to 50 percent of teachers who leave within their first three years of teaching, those graduating from urban teaching residencies had retention rates close to 90 percent to 95 percent after three years of teaching (Berry et. al., 2008).

High Tech High's Teacher Intern Program

A teacher credentialing program begun in 2004 in San Diego, California, provides an innovative model of clinical teacher preparation built from the school up. High Tech High (HTH) is a Grades K–12 charter school organization that currently operates eight schools in southern California (five high schools, two middle schools, and one elementary school, with plans to add a middle school in 2009–10), focusing on project-based learning and making concrete school-to-work connections for students. To "grow their own" teachers and extend learning opportunities

to HTH faculty, HTH leaders partnered with the University of San Diego and began a Teacher Intern Program and a Teacher Induction Program based in their schools. The Teacher Intern Program prepares teachers to work in HTH schools, although organizers are expanding the program to provide training to beginning teachers in surrounding public schools.

Candidates for the program are rigorously selected and must have their bachelor's degree and pass initial California licensure exams. Participants receive 120 hours preservice training in the summer prior to entering the classroom as a teacher of record. In their first year, interns work with expert mentor teachers and take coursework often provided by experienced HTH teachers and by professors at the University of San Diego. Interns meet Tuesday nights for class, making direct connections between what they are learning from their practice as beginning teachers and what they are learning in their coursework. To graduate from the two-year Teacher Intern Program, participants must pass the state-required California Performance Assessment to receive their preliminary California teacher credential. Successful graduates then enroll in a two-year Teacher Induction Program at HTH that provides streamlined support for new teachers. Successful participants in the Induction Program will be eligible for California's single-subject clear, professional credential. HTH has also started a Graduate School of Education to train teacher leaders and administrators. There is so far no external evidence available about the outcomes of this continuous clinical teacher learning model on teacher retention or student learning, but it is a program worth watching as organizers report high retention rates among teacher interns.

Conclusion

Viewing teaching as a clinical practice profession allows us to see that teaching has elements of both a craft and a profession, requiring skilled practice and a significant conceptual base. Essentially, a teacher, like other clinical practice professionals, must utilize a combination of specialized knowledge, evidence, and judgment when working with clients in clinical contexts. Because "teaching occurs in particulars—particular students interacting with particular teachers over particular ideas in particular circumstances" (Ball & Cohen, 1999, p. 10), teachers must be able to size up a situation from moment to moment and make expert judgments on the fly. In using this judgment, they must "create bridges between the universal terms of theory and the gritty particularities of situated practice" (Shulman, 1998; p. 519).

To master the complex practice of teaching, novice teachers must engage in high-quality teacher preparation that is thoughtfully and purposefully grounded in practice. Such preparation integrates academic courses with pedagogical training in clinical settings that demonstrate and support the use of best practices. These ideas are not new, but they are difficult to bring to scale. The TNE, UTR, and HTH models provide worthy exemplars for restructuring teacher preparation in this country based on the conception of teaching as a clinical practice profession. States, districts, and teacher preparation programs should consider examining these and other efforts to inform how they prepare and support preservice teachers.

What Can States Can Do To Strengthen the Development of Teachers as Clinical Practice Professionals?

- Provide grants to groups of researchers who are working to better understand effective teaching practices and who are committed to sharing this information with teacher education programs
- In collaboration with teacher education faculty, revisit state-mandated preparation coursework requirements and/or caps to ensure that they are aligned with the principles of a clinical practice profession
- Provide incentives to local schools that act as clinical settings for teacher candidates
- Support the expansion or replication of successful teacher residency programs, the piloting of new teacher residency programs, and funding to evaluate the impact of such programs
- Further specify common student learning standards and curricula so that teacher preparation programs can better focus coursework and clinical experiences to prepare teacher candidates to teach the content; this also will allow programs to better evaluate their candidates' impact on student learning in particular content domains
- Provide forums for preparation program faculty and state and local education personnel to share best practices and to develop and refine signature pedagogies in teacher preparation
- Allocate resources to support comprehensive induction and continued professional development activities grounded in practice

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