

## Learning to Practice: The Design of Clinical Experience in Teacher Preparation

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### Executive Summary

Few would disagree that clinical experience is critical for teacher development. Teaching is, after all, a demanding clinical practice, requiring teachers to orchestrate complex classroom interactions designed to help children learn. While clinical practice rests on a body of professional knowledge, ultimately teachers need to be able to put this knowledge to use in practice. Clinical experiences during professional education provide opportunities for teachers to develop and hone their craft.

Research on expert performance highlights the importance of extensive and targeted practice in developing expertise (Ericsson, Charness, Hoffman, & Feltovich, 2006). Organizing professional education around the development of clinical skill requires multiple opportunities to practice and get feedback throughout a preparation program. Some of this practice can occur productively in designed settings or simulations. At some point, however, novices need structured opportunities to gain experience in authentic settings of actual teaching practice. Accordingly, all teacher education programs include field experiences in their curriculum; the nature of this experience, however, can vary widely.

One of the challenges to designing professional education around the development of clinical practice is the organizational and institutional fragmentation that surrounds those who are learning to teach. Designing high-quality clinical experiences for prospective teachers requires bridging a number of divides: between professional knowledge and skilled practice; between universities and PK-12 schools; and between the settings in which prospective teachers learn and the contexts of their early years of teaching. This policy brief addresses what is known about high-quality clinical preparation and lays out an argument for investing in professional education that is organized around more coherent systems for cultivating clinical practice.

### About This Series

This policy brief is part of a series commissioned by the Partnership for Teacher Quality to help inform and improve teacher quality policies at the state, local, and national level. The briefs address issues related to teacher licensure, teacher effectiveness, clinical preparation, and data systems, and each includes an overview of the research, promising practices, and recommendations related to their specific topic.

### About the Partnership for Teacher Quality

In September 2008, the National Education Association (NEA) and the American Association of Colleges for Teacher Education (AACTE) formed the Partnership for Teacher Quality to promote awareness, understanding, and collaboration about teacher quality issues at the state level. Shared commitment to strong teacher preparation and licensure standards is the foundation for the policy proposals and meetings that have occurred between NEA affiliates and AACTE state chapters. These alliances are crucial for both organizations in the era of licensure deregulation and the undermining of teacher quality. This policy paper and others in the series are a product of the partnership.

## Recommendations

### *Invest in the creation and additional support of appropriate placements for learning to teach that build on research-based findings.*

- Educator preparation programs should identify well-functioning schools in urban contexts and identify schools with cultures of experimentation and collegiality.
- Policy makers should ensure that all new teachers licensed in the state have had clinical experiences prior to initial licensure and provide funding to support schools that are willing to serve as sites for clinical experiences.

### *Invest in stronger systems of clinical supervision that cut across preparation-induction boundaries.*

- Educator preparation programs and policy makers should create stronger incentives and rewards for engaging in this work to increase the supply of highly skilled mentor teachers with expertise in supporting new teachers.

### *Invest in systems for providing feedback targeted specifically to instructional practices that are linked to student achievement.*

- Policy makers should ensure that as statewide longitudinal databases are developed, the data on educator preparation programs collected will enable programs to identify features of preparation that have an impact on high-quality teachers and teaching.
- Preparation programs should utilize new observation methods that identify classroom practices associated with student achievement.

### *Invest in large-scale, comparative research that can begin to disentangle the most critical features of effective clinical preparation.*

## Introduction

Few would disagree that clinical experience is critical for teacher development. Teaching is, after all, a demanding clinical practice, requiring teachers to orchestrate complex classroom interactions designed to help children learn. Although clinical practice rests on a body of professional knowledge, ultimately teachers need to be able to put this knowledge to use in practice. Clinical experiences during professional education provide opportunities for teachers to develop and hone their craft.

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## Summary of Research

### *The Role of Simulations and Teaching Laboratories in Developing Clinical Practice*

Although most of the research on developing clinical practice focuses on experiences in schools, clinical preparation can also take place in designed settings other than schools. Just as airline pilots and surgeons engage in simulations of practice prior to take-off or surgery, simulations or laboratory settings can provide a sheltered opportunity for prospective teachers to engage in targeted practice of

clinical skills. Early experiments in microteaching, in which student teachers were videotaped as they practiced different pedagogical skills, suggested that novices benefited from the opportunity to practice and receive feedback (see Grossman, 2005, for an overview of this literature). The quality of feedback provided to novices was particularly important in shaping what these prospective teachers learned. For example, the more targeted and specific the feedback around elements of teaching practice, the more novices were able to use feedback to improve their skills. Some comparative research also suggests that such simulations can be as effective as field experience for developing teachers' understanding and practice (Metcalf, Hammer, & Kahlich, 1996).

### ***Promising Practices in the Use of Designed Settings for Cultivating Clinical Practice***

A number of teacher education programs currently are experimenting with designed settings for learning to teach. Designed settings might include teaching simulations, summer school programs that are explicitly designed to serve as laboratories for the learning of new teachers, or "virtual classrooms" in which technological innovations are used to provide opportunities to interact with practice. Some of these designed settings use new technologies to provide access to examples of high-quality practice. For example, the Quest Project at the Carnegie Foundation for the Advancement of Teaching created web sites of accomplished teaching for use in teacher education (see [insideteaching.org](http://insideteaching.org) for examples of this work). Teacher educators at a number of institutions—including Mills College, Stanford University, University of California, Los Angeles, University of Pennsylvania, San Jose State University, and University of California, Santa Cruz—then used these web sites in their work with novices. Virtual field experiences, which link prospective teachers to either live classrooms or web sites of outstanding teachers, can overcome some of the challenges of finding exemplars of particular practices. Finally, some programs use extensive records of practice, including videos, teacher logs, and student work, from a single classroom that provide a site for exploring classroom interactions across a full year (Lampert & Ball, 1998).

In other settings, teachers engage in "approximations of practice" (see, e.g., Grossman et al., 2009) in which they try out and receive feedback on the kinds of pedagogical moves they will later use in PK-12 classrooms. For example, at the

University of Michigan, teacher educators are experimenting with ways to redesign the teaching of practice. Some of these approaches rely on moving methods courses into classroom settings as sites for a careful sequence of demonstration, rehearsal and coaching, and microteaching (Lampert & Graziani, 2005). In this work, teacher educators focus on a small set of core practices for teachers, such as leading a classroom discussion around math or reading (see, e.g., Ball, Sleep, Boerst, & Bass, 2009; Kucan & Palinscar, 2010), or specific practices for teaching elementary mathematics.

While approximations of practice such as these can never take the place of the opportunity to practice in authentic settings, existing research suggests the value of using such designed settings for the early development of clinical judgment and skills. Opportunities to engage in deliberate practice of regular routines of teaching allows teachers to build not only confidence but skill; developing greater automaticity in such routines may allow new teachers to focus more on their students and their learning once they enter the classroom.

### **Duration and Settings for Field Experiences**

One of the key questions regarding clinical preparation is the optimal length or duration of field experience. The trend in American teacher education has been toward longer and earlier experiences in schools. Many programs have instituted early field experiences in undergraduate programs, and the length of student teaching has also increased over the past decades. While more time in schools produces more potential opportunities for learning, relatively little research has been done about the impact of length of experience. Although there is evidence that a lack of student teaching experience is negatively related to student achievement (Boyd, Grossman, Lankford, Loeb, & Wyckoff, 2009), it

does not necessarily follow that more experience is always better. Rather, the research suggests that the value of clinical experience depends at least as much on the *quality* of the experience as on the *quantity*. More time in a problematic setting is

not necessarily better than less time in a high-functioning classroom with strong mentor.

Much of the debate around clinical preparation concerns the kind of schools in which students should be placed for field experience. Some argue strongly, for example, that to prepare students for high-poverty urban schools, prospective teachers need experience in such settings. Others argue

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for the value of placements in a professional development school, which are designed to bridge the divide between school and university and provide additional support for the learning of new teachers. Relatively little research, however, helps us understand definitively how school characteristics are related to outcomes for students.

### ***Professional Development Schools***

Professional development schools (PDSs) and other school-university partnerships are designed to provide more coherence across the settings in which new teachers learn. Often compared to university teaching hospitals, PDSs were initially conceptualized as settings that are specifically designed to promote high-quality practice and additional support for the learning of new teachers.

The existing research suggests that, in general, placement in a partnership school such as a PDS benefits prospective teachers. Teachers prepared in such settings generally feel more efficacious and better prepared for their first year of teaching (see Clift & Brady, 2005, for an overview of this research). There is also some evidence that teachers prepared in such settings are more likely to remain in teaching (Latham & Vogt, 2007).

Despite the generally positive findings with regard to PDSs, it is hard to distinguish what features of such schools best support teachers' development of clinical practice. Often, placement in a PDS might occur in programs that are strong in other ways as well, so it is difficult to disentangle the impact of the placement in a PDS from other aspects of the program. In addition, what counts as a PDS in the research varies across studies. Finally, students who opt into PDSs may also differ from students who are prepared in other settings. All of these confounding details make it difficult to make conclusive claims about the benefits of learning to teach in a PDS. Nonetheless, the existing research suggests that prospective teachers benefit from placement in settings that are specifically designed to support their learning.

### ***Urban Schools***

Because of the specific need for high-quality teachers for hard-to-staff urban schools, many have argued for the importance of placing students in urban, high-poverty schools as part of their preparation. Given the context-specific nature of clinical practice, having opportunities to learn in settings that are similar to the ones in which teachers

will take their first job seems like an obvious benefit. Some programs focus on providing opportunities for prospective teachers to learn about the communities in which they will be teaching (see, e.g., McDonald et al., in press), and there is emerging evidence that such opportunities can help novices develop knowledge and skill in working in urban schools (Burant & Kirby, 2002). Existing research also demonstrates positive effects of placement in urban schools on teachers' sense of effectiveness in working in urban schools and on retention. As with the research on PDS placements, most programs included in these studies also included strong support for teachers placed in such schools.

The nature of the school itself in which student teachers are placed matters. Emerging research (Ronfeldt, 2010) suggests that field placements in schools with lower teacher attrition—a proxy for better-functioning schools—have

an impact both on teachers' effectiveness in promoting student achievement and on their retention. This finding holds even when teachers later find themselves teaching in schools with higher attrition. This finding might also explain the PDS results, as universities are probably more likely to choose better-functioning schools with lower attrition as partners.

Overall, research suggests that the nature of schools in which prospective teachers are placed can affect their opportunities to develop knowledge, skill, and confidence. Given their importance for the development of effective teachers, such placements should never be left to chance.

### ***Promising Practices in the Design of Settings for Clinical Practice***

A number of teacher education programs across the country have been experimenting with the design of strong PDS models. Such models aim to develop greater coherence between the university and school settings. The PDS at Pennsylvania State University, a collaboration between the college and the State College Area School district, is a well-developed model that focuses on preparing future teachers, providing ongoing professional development to experienced teachers and teacher educators, nurturing innovative practices to improve student learning, and developing the next generation of teacher educators. The program now serves 60 interns a year in 12 district schools. To bridge the various divides mentioned above, the collaboration has developed new roles for teachers and teacher educators. For example, Professional Development Associates include both class-

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room teachers and university-based teacher educators; they are responsible for teaching methods classes at both the school site and the university and providing supervision to interns and mentors. This program has recently begun to tackle explicitly the preparation of the next generation of teacher educators, a critical task for ensuring the consistency of this work.

Urban teacher residency programs combine features of both PDSs and urban placements (see Berry et al., 2008; Solomon, 2009). In most of these programs, interns are placed into an apprenticeship with experienced master teachers, with course work woven around the experience in schools. Such programs serve to break down the divide between preservice preparation and the first year of teaching and have the potential to create more coherent preparation programs. For example, the Boston Teacher Residency program prepares teachers for the Boston Public Schools, placing future teachers in yearlong residencies in carefully selected host schools. The program recognizes the importance of the school itself as a context for learning; in this program, the school as a whole, not just the individual mentors, is responsible for the preparation of its residents. In selecting schools, the program looks for evidence of a collaborative, data-driven professional culture and strong leadership that includes a vision of teacher development in overall school improvement efforts. Because the program focuses on preparation of teachers for a single school district, it uses the Boston Public Schools' Dimensions of Effective Teaching as a framework for working with novices; this ensures that novices develop a common language and set of ideas around teaching that will remain consistent from preservice preparation through their work as a full-time teacher. Such a framework also provides a common lens for feedback and supervision (see Solomon for a fuller description of this program) and the potential for greater consistency in the development of clinical practice. Urban teacher residencies include mechanisms designed to bridge many of the divides already mentioned.

### Feedback, Mentoring, and Supervision

The quality of clinical experience depends heavily on the kind of coaching, supervision, and support prospective teachers receive as they develop their practice. Much of the research in this area has focused specifically on coaching and feedback during prospective teachers' time in the field.

However, to the extent that these novices are also learning to enact practices in other components of programs, the quality of coaching and feedback matters across settings.

Extensive research has documented the critical role of the cooperating teacher in supporting teacher learning. Because cooperating teachers control access to opportunities to interact with students and to teach independently—and provide the most immediate and ongoing feedback on practice—they exert a powerful influence over the quality of the experience. Research documents the challenges of finding cooperating teachers who are willing and able to serve as appropriate mentors to prospective teachers. One of the most important functions of a teacher education program may be to ensure that novices have access to high-quality cooperating teachers; such careful oversight over field placement has been associated with the effectiveness of program graduates (Boyd et al., 2009). Much literature documents the consequences of a poor match between a prospective and cooperating teacher. However, there is little doubt that prospective teachers benefit from cooperating teachers who provide both instructional guidance and opportunities for independent teaching (Fives, Hamman, & Olivarez, 2007; Woullard & Coats, 2004). Such clear instructional guidance may be the exception rather than the rule, however, as cooperating teachers may focus more on positive and global evaluations of practice (Fernandez & Erbilgin, 2009; Valencia, Martin, Place, & Grossman, 2009). Given their critical role in supporting new teachers, the lack of preparation and support for cooperating teachers is particularly problematic.

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Clinical supervisors provide a critical link between the university and the school, and both the quality of feedback provided by a supervisor and the frequency of supervision are associated with better outcomes for both prospective teachers and their students (Boyd et al., 2009).

However, supervision is often a weak link in the design of clinical preparation. Too often, supervisors receive only cursory professional preparation for the role, and their marginal status at both schools and universities may weaken their potential influence.

### Promising Practices in Clinical Supervision

One promising approach to providing novices with greater support is the development of a coteaching model, in which student and cooperating teachers are jointly responsible for the classroom. Such coteaching models provide novices with greater opportunities to learn, in practice, from their more

experienced colleagues. In one example of this model, Saint Cloud State University in Minnesota has implemented the coteaching model in student teaching with over 500 pairs of cooperating and student teachers through a partnership with 17 local school districts. The research on the program suggests that not only do teacher candidates show gains in their teaching ability, but the academic achievement of students in these coteaching classrooms improves as well.

The early years of teaching represent a critical period in the development of teaching practice. Too often, the institutional divide between the university's responsibility for supervising student teachers and a school district's responsibility for mentoring new teachers results in fragmented support in the early years of teaching. Several programs have developed innovative ways to bridge this divide. Center X at the University of California, Los Angeles provides 2 years of supervision for their teachers, spanning the time from student teaching through the first year of teaching. In addition to supervision, Center X provides ongoing professional development and seminars to support novice teachers.

The Philadelphia Area New Teacher Mentoring program addresses the lack of consistency in mentoring and support across the divide of preservice and induction programs by providing ongoing professional development for graduates of 19 liberal arts institutions that are part of the Consortium for Excellence in Teacher Education. The program provides a variety of support programs for teachers in their first through third years of teaching in the Philadelphia metropolitan area; supports include summer institutes, ongoing professional development opportunities, and site-based mentoring. This program explicitly prepares and supports mentors in this program through a regular study group and a course on mentoring.

## Recommendations

The recommendations that follow aim to strengthen the preparation of novice teachers and to ensure that they are well prepared for clinical practice. The recommendations reflect the centrality of schools in the enterprise of teacher preparation and the need to bridge the divide between pre-service preparation and the first years of learning to teach on the job. As is true of most professional education, the first years in the job are critical to the development of skilled practice. Providing more continuity across the settings in which novice teachers learn to teach and more coherence in the feedback and supervision they receive will strengthen the professional as a whole.

### *Invest in the creation and additional support of appropriate placements for learning to teach that build on research-based findings.*

- Identify high-functioning schools in urban contexts.
- Identify schools with cultures of experimentation and collegiality.
- Provide funding support to schools that are willing to serve as sites for clinical experiences.
  - » Given the importance of the school as a context for learning to teach, policy makers should invest in further development and support of partnership schools, including PDSs. The identification of such schools should take advantage of existing research on the features of schools that support teacher learning. This recommendation would apply to both traditional and alternative preparation programs. In fact, these recommendations are particularly applicable to those who are hoping to develop urban residency programs. The identification of schools that are positive environments for new teachers is critical to the enterprise of teacher preparation across pathways.

### *Invest in stronger systems of supervision that cut across preparation-induction boundaries.*

- Develop more systematic preparation for those who wish to supervise novice teachers.
  - » Create stronger incentives and rewards for engaging in this work to support the development of a cadre with expertise in supporting new teachers.
  - » Develop programs specifically designed to prepare people for the work of supervision and mentoring of prospective and novice teachers.
- Provide greater overlap in the preparation and ongoing professional development of supervisors, cooperating teachers, and district-based mentors.
- Create more regional collaboration across universities in developing clinical teacher educators.
  - » Given the importance of supervision in developing clinical practice, the field needs to invest much more in the preparation and support of all of those who supervise prospective and novice teachers. Creating common programs for those who supervise student teachers and those who mentor novice teachers would provide greater consistency in the support that new teachers receive in the early years of learning to teach.



***Invest in systems for providing feedback that are targeted specifically to instructional practices that are linked to student achievement.***

- In collaboration with districts and classroom teachers, develop common tools for development of clinical practice that extend from preparation through induction.
  - » Develop common formative assessment tools to provide feedback on development of clinical skills.
  - » Develop stronger mechanisms to counsel out candidates who continue to be weak in their clinical practice.
  - » Teacher education should take advantage of the current research efforts in identifying features of high-quality teachers and teaching. A number of observation protocols are now available that identify classroom practices that are associated with student achievement. Formative assessment tools also are available for induction programs. Using a common set of tools and language for the development of clinical practice across the early years of teaching could help focus the work of supervisors and mentors and provide greater support for novice teachers.

***Invest in larger scale, comparative research that can begin to disentangle the most critical features of effective clinical preparation.***

- Invest in more comparative research of different models of field experience both within and across programs.
- Invest in studies of the impact of simulations and designed settings on the development of clinical practice.
- Invest in large-scale research that looks at characteristics and practices of effective supervisors and cooperating teachers.
  - » There is much to learn about preparation for clinical practice that supports highly effective new teachers. Investing in large-scale comparative studies could help the field identify the most important features of effective clinical education and target resources to those areas. Such research could inform both policies and resource allocation for teacher preparation and induction.

## Conclusion

Providing high-quality practice opportunities for prospective teachers is fundamental to the enterprise of teacher education. Across the multiple settings of professional education, teacher educators need to attend to how best to help novices develop skilled practice.

Putting clinical practice at the center of teacher education will require programs to make some fundamental shifts. First, taking clinical practice seriously will require systematic opportunities for prospective teachers to develop core practices of teaching, with ample opportunities for experimentation and feedback (see, e.g., Grossman & McDonald, 2008). Programs might take advantage of designed settings and simulations to provide such opportunities early on.

Creating high-quality opportunities for novices to develop clinical practice in the field requires careful attention to the quality of the schools and classrooms in which novice teachers are placed and to the quality of feedback and supervision they receive on their work. Such design work also requires teacher educators to bridge the divide between professional education and the first years of practice. Over the past 2 decades, universities have worked to create stronger partnerships with schools and districts to improve field experience; the creation of PDSs and urban teacher residencies, as described above, tries to provide greater continuity around learning to practice.

Less effort, however, has gone into developing the capacity for high-quality supervision, by both university- and school-based teacher educators. Universities and school districts might collaborate on the development of better tools for evaluating the quality of novice teacher practice and for providing feedback around specific elements of clinical practice. In addition, they could invest more collectively in the preparation of cooperating teachers, field supervisors, and mentors in the use of such tools and in the practice of supervision. Such collaborative efforts would reduce the mixed messages novice teachers hear and support a smoother transition from student teaching into the first years of teaching. The Boston Teacher Residency Program's use of a common framework for looking at teaching, developed by the Boston Public Schools, represents one example of this.

Given the lack of clear evidence on many important questions regarding clinical preparation, we also need to invest in high-quality research that can begin to disentangle the elements of clinical preparation that result in highly effective new teachers.

## References

- Ball, D. L., Sleep, L., Boerst, T. A., & Bass, H. (2009). Combining the development of practice and the practices of development in teacher education. *Elementary School Journal*, 109, 458-474.
- Berry, B., Montgomery, D., Curtis, R., Hernandez, M., Wurtzel, J., & Snyder, J. (2008). *Creating and sustaining urban teacher residencies: A new way to recruit, prepare, and retain teachers for high-needs districts*. Washington, DC: The Aspen Institute.
- Boyd, D., Grossman, P., Lankford, H., Loeb, S., & Wyckoff, J. (2009). Teacher education and student achievement. *Educational Evaluation and Policy Analysis*, 31(4), 416-440.
- Burant, T., & Kirby, D. (2002, July). Beyond classroom-based early field experiences: Understanding an "educative practicum" in an urban school and community. *Teaching and Teacher Education*, 18(5), 561-575.
- Clift, R. T., & Brady, P. (2005). Research on methods courses and field experiences. In M. Cochran-Smith & K. Zeichner (Eds.), *Studying teacher education: The report of the AERA Panel on Research and Teacher Education* (pp. 309-424). Mahwah, NJ: Lawrence Erlbaum.
- Ericsson, K. A., Charness, N., Hoffman, R. R., & Feltovich, P. (2006). *The Cambridge handbook on expertise and expert performance*. Cambridge: Cambridge University Press.
- Fernandez, M. L., & Erbilgin, E. (2009, September). Examining the supervision of mathematics student teachers through analysis of conference communications. *Educational Studies in Mathematics*, 72(1), 93-110.
- Fives, H. R., Hamman, D., & Olivarez, A. (2007). Does burnout begin with student-teaching? Analyzing efficacy, burnout, and support during the student-teaching semester. *Teaching and Teacher Education: An International Journal of Research and Studies*, 23(6), 916-934.
- Grossman, P., Compton, C., Igra, D., Ronfeldt, M., Shahan, E., & Williamson, P. (2009). Teaching practice: A cross-professional perspective. *Teachers College Record*, 111(9), 2055-2100.
- Grossman, P., & McDonald, M. (2008). Back to the future: Directions for research in teaching and teacher education. *American Educational Research Journal*, 45(1), 184-205.
- Grossman, P. L. (2005). Research on pedagogical approaches in teacher education. In M. Cochran-Smith & K. Zeichner (Eds.), *Studying teacher education* (pp. 425-476). Washington DC: American Educational Research Association.
- Kucan, L., & Palincsar, A. S. (in press). Locating struggling readers in a reconfigured landscape: A conceptual review. In M. L. Kamil, P. D. Pearson, E. B. Moje, & P. Afflerbach (Eds.), *Handbook of reading research* (Vol. IV). New York: Routledge.
- Lampert, M., & Ball, D. L. (1998). *Teaching, multimedia, and mathematics: Investigations of real practice*. New York: Teachers College Press.
- Lampert, M., & Graziani, F. (2005, March). *Unpacking practice: The pedagogies of learning from practice*. Paper presented at the annual meeting of the American Educational Research Association, Montreal, Canada.
- Latham, N. I., & Vogt, W. P. (2007). Do professional development schools reduce teacher attrition? Evidence from a longitudinal study of 1,000 graduates. *Journal of Teacher Education*, 58(2), 153-167.
- McDonald, M., Tyson, K., Brayko, K., Bowman, M., Delpert, J., & Shimomura, F. (in press). Innovation and impact in teacher education: Community-based organizations as field placements for preservice teachers. *Teachers College Record*.
- Metcalf, K. K., Hammer, M. A. R., & Kahlich, P. A. (1996). Alternatives to field-based experiences: The comparative effects of on-campus laboratories. *Teaching and Teacher Education*, 12(3), 271-283.
- Ronfeldt, M. (2010). *Where should student teachers learn to teach?* Working paper. Retrieved May 10, 2010, from <http://www.stanford.edu/group/irepp/uploads/WhereLearnToTeach30Apr2010.pdf>.
- Solomon, J. (2009). The Boston Teacher Residency: District-based teacher education. *Journal of Teacher Education*, 60(5), 478-488.
- Valencia, S. W., Martin, S. D., Place, N. A., & Grossman, P. (2009). Complex interactions in student teaching: Lost opportunities for learning. *Journal of Teacher Education*, 60(3), 304-322.
- Woullard, R., & Coats, L. T. (2004). The community college role in preparing future teachers: The impact of a mentoring program for preservice teachers. *Community College Journal of Research and Practice*, 28(7), 609-624.

## About AACTE

The American Association of Colleges for Teacher Education (AACTE) is a national alliance of educator preparation programs dedicated to the highest quality professional development of teachers and school leaders in order to enhance PK-12 student learning. The 800 institutions holding AACTE membership represent public and private colleges and universities in every state, the District of Columbia, the Virgin Islands, Puerto Rico, and Guam. AACTE's reach and influence fuel its mission of serving learners by providing all school personnel with superior training and continuing education.

## About the NEA

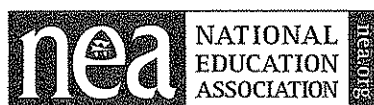
The National Education Association (NEA) is the nation's largest professional organization, representing 3.2 million elementary and secondary teachers, higher education faculty, education support professionals, school administrators, retired educators, and students preparing to become teachers.

## About the Author

**Pam Grossman** is Nomellini-Olivier Professor of Education at the Stanford University School of Education. She completed her undergraduate degree in English at Yale University and her Ph.D. from Stanford University. Her research interests include teacher education and professional education more broadly, teacher knowledge, and the teaching of English in secondary schools. Along with her colleagues Don Boyd, Hamilton Lankford, Susanna Loeb, and James Wyckoff, she has been engaged in a 5-year study of pathways into teaching in New York City schools, focusing on the features of preparation that affect student achievement. She is currently investigating the classroom practices of middle school English teachers that are associated with student achievement and developing a classroom observation system for ELA classrooms. She is a member of the National Academy of Education and currently serves as the faculty director of the new Center to Support Excellence in Teaching, part of Stanford's K-12 Initiative. A former high school English teacher, Grossman also teaches the prospective English teachers in Stanford's teacher education program.



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