

From Preparation to Practice: Designing a Continuum to Strengthen and Sustain Teaching

SHARON FEIMAN-NEMSER

Michigan State University

This paper was written to stimulate discussions and debate about what a professional learning continuum from initial preparation through the early years of teaching could be like. Drawing on a broad base of literature, the author proposes a framework for thinking about a curriculum for teacher learning over time. The paper also considers the fit (or misfit) between conventional approaches to teacher preparation, induction and professional development and the challenges of learning to teach in reform-minded ways and offers examples of promising programs and practices at each of these stages. The paper is organized around three questions: (a) What are the central tasks of teacher preparation, new teacher induction, and early professional development? (b) How well do conventional arrangements address these central tasks? (c) What are some promising programs and practices at each stage in the learning to teach continuum that promote standards-based teaching and enable teachers to become active participants in school reform?

INTRODUCTION

After decades of school reform, a consensus is building that the quality of our nation's schools depends on the quality of our nation's teachers. Policy makers and educators are coming to see that what students learn is directly related to what and how teachers teach; and what and how teachers teach depends on the knowledge, skills, and commitments they bring to their teaching and the opportunities they have to continue learning in and from their practice. The National Commission on Teaching and America's Future (1996) puts it this way: "What teachers know and can do makes the crucial difference in what teachers can accomplish. New courses, tests, curriculum reforms can be important starting points, but they are meaningless if teachers cannot use them productively. Policies can improve schools only if the people in them are armed with the knowledge, skills and supports they need" (p. 5).

This paper rests on a single premise with far-reaching consequences—if we want schools to produce more powerful learning on the part of stu-

dents, we have to offer more powerful learning opportunities to teachers. Conventional programs of teacher education and professional development are not designed to promote complex learning by teachers or students. The typical preservice program is a weak intervention compared with the influence of teachers' own schooling and their on-the-job experience. "Sink or swim" induction encourages novices to stick to whatever practices enable them to survive whether or not they represent "best" practice in that situation. Professional development opportunities are usually sporadic and disconnected, rarely tied to teachers' classroom work and lacking any follow up. Unless teachers have access to serious and sustained learning opportunities at every stage in their career, they are unlikely to teach in ways that meet demanding new standards for student learning or to participate in the solution of educational problems (Ball & Cohen, 1999).

Placing serious and sustained teacher learning at the center of school reform is a radical idea. It challenges dominant views of teaching and learning to teach. It calls for a major overhaul in provisions for teacher preparation, induction, and continuing development. It requires capacity building at all levels of the system. No one should underestimate the depth or scope of the agenda. As Fullan, Galluzzo, Morris, and Watson (1998) contend: "We are dealing with a reform proposition so profound that the teaching profession itself, along with the culture of schools and schools of education, will have to undergo total transformation in order for substantial progress to be made" (p. 68).

This paper was written to stimulate discussion and debate about what a professional learning continuum from initial preparation through the early years of teaching could be like. Drawing on a broad base of literature and my own research and experience in teacher education, I propose a framework for thinking about a curriculum for teacher learning over time. I also consider the fit (or misfit) between conventional approaches and the challenges of learning to teach in reform-minded ways and offer some examples of promising programs and practices in preservice preparation, new teacher induction, and early professional development.

The paper is organized around three questions: (a) What are the central tasks of teacher learning in the early stages of learning to teach? (b) How well do conventional arrangements for teacher preparation, new teacher induction, and early professional development address these central tasks and what are some major obstacles that get in the way? (c) What are some promising programs and practices that promote reform-minded teaching and enable teachers to become active participants in school reform?

The first question invites us to consider the learning needs of teachers at different stages in their learning to teach over time. The notion of "central tasks" suggests that each phase in a continuum of teacher learning has a unique agenda shaped by the requirements of good teaching and by where

teachers are in their professional development. Delineating central tasks of preservice preparation, induction, and early professional development allows us to see the special challenges associated with different stages as well as the necessary threads of continuity that create a coherent and powerful curriculum for becoming a learning teacher and an agent of change.

The second question calls for an appraisal of current practice in light of the central tasks of learning to teach and for an analysis of major obstacles that limit our ability to prepare reform-minded teachers and help them develop their practice over time. The third question invites a description of some promising programs and practices in initial preparation, induction, and early professional development. These examples demonstrate the possibility of creating powerful opportunities for teacher learning directed toward reform-minded teaching and appropriate for teachers at different stages. The challenge is not only to connect such opportunities across a learning-to-teach continuum but also to make them a regular feature on the educational landscape.

Before turning to this agenda, a brief explanation of the underlying image of teaching is in order, since we cannot talk about a learning to teach continuum without clarifying the kind of teaching we want teachers to learn. Many contemporary reforms call for content-rich, learner-centered teaching, which emphasizes conceptual understanding and gives all students opportunities to think critically, solve problems, and learn things that matter to them and have meaning in the world outside of school. If conventional models emphasize teaching as telling and learning as listening, reform-oriented models call for teachers to do more listening as they elicit student thinking and assess their understanding and for students to do more asking and explaining as they investigate authentic problems and share their solutions.¹

New curriculum frameworks and standards documents represent this image of ambitious teaching in the form of subject specific goals and principles; however, what this means and what it looks like in practice must be worked out by teachers themselves. It follows that teachers who embrace this kind of teaching must also be practical intellectuals, curriculum developers, and generators of knowledge in practice. The continuum for learning to teach proposed here is oriented around this vision of teaching and around an expanded view of professional practice that includes teachers working together for educational change.

TEACHER LEARNING DURING PRESERVICE PREPARATION

Dewey (1938) warned that “preparation” was a “treacherous” idea when applied to education. He believed that every experience should prepare a person for later experiences of a deeper, more expansive quality. He argued

that educators should not use the present simply to get ready for the future. "Only by extracting the full meaning of each present experience are we prepared for doing the same thing in the future" (p. 49).

I think of Dewey when I hear cooperating teachers insist that student teachers need a lot of experience with whole-class teaching since that is what they will be expected to do on their own the following year. I wonder about the powerful learnings that could come from child study, classroom inquiry, coplanning, coteaching and other forms of assisted performance that would enable teacher candidates to learn with help what they are not ready to do on their own. I also think of Dewey when I see university teacher educators trying to cram too much into their courses, because they believe this is their last chance to influence prospective teachers. If preservice teacher educators could count on induction programs to build on and extend their work, they could concentrate on laying a foundation for beginning teaching and preparing novices to learn in and from their practice.

CENTRAL TASKS

The central tasks of preservice preparation build on current thinking about what teachers need to know, care about, and be able to do in order to promote substantial learning for all students. They also reflect the well established fact that the images and beliefs which preservice students bring to their teacher preparation influence what they are able to learn. Although the tasks are discussed separately, they form a coherent and dynamic agenda for initial preparation.

Analyzing Beliefs and Forming New Visions

The images and beliefs that prospective teachers bring to their preservice preparation serve as filters for making sense of the knowledge and experiences they encounter. They may also function as barriers to change by limiting the ideas that teacher education students are able and willing to entertain. The paradoxical role of prior beliefs in learning takes on special significance in teacher preparation. Unlike students of engineering or law or medicine, students of teaching do not approach their professional education feeling unprepared. Images of teaching, learning, students, and subject matter formed during elementary and secondary school provide a basis for interpreting and assessing ideas and practices encountered during teacher preparation (Lortie, 1975). These taken-for-granted beliefs may mislead prospective teachers into thinking that they know more about teaching than they actually do and make it harder for them to form new ideas and new habits of thought and action.

Researchers have documented the nature and persistence of preservice teachers' entering beliefs. For instance, many preservice students think of teaching as passing on knowledge and learning as absorbing and memorizing knowledge (Ball & McDiarmid, 1990; Calderhead & Robson, 1991). When they imagine themselves teaching, prospective teachers often picture themselves standing in front of a group of attentive students presenting information, going over problems, and giving explanations (Ball, 1988). These views are incompatible with conceptions of teaching, learning, and knowledge that undergird new visions of reform-minded practice. Before they can embrace these new visions, prospective teachers need opportunities to examine critically their taken-for-granted, often deeply entrenched beliefs so that these beliefs can be developed or amended.

Teacher candidates must also form visions of what is possible and desirable in teaching to inspire and guide their professional learning and practice. Such visions connect important values and goals to concrete classroom practices. They help teachers construct a normative basis for developing and assessing their teaching and their students' learning. Unless teacher educators engage prospective teachers in a critical examination of their entering beliefs in light of compelling alternatives and help them develop powerful images of good teaching and strong professional commitments, these entering beliefs will continue to shape their ideas and practices.

Developing Subject Matter Knowledge for Teaching

If teachers are responsible for helping students learn worthwhile content, they must know and understand the subjects they teach. Scholars have identified three aspects of subject matter knowledge for teaching: (a) knowledge of central facts, concepts, theories, and procedures within a given field; (b) knowledge of explanatory frameworks that organize and connect ideas; and (c) knowledge of the rules of evidence and proof (Shulman, 1986). Besides knowing content, teachers must understand the nature of knowledge and inquiry in different fields. How is a proof in mathematics different from a historic explanation or a literary interpretation? Such understandings influence the questions teachers ask, the tasks they set, and the ideas they reinforce. If teachers do not understand how scholars working in different fields think about their subjects, they may misrepresent those subjects to their students (Ball & McDiarmid, 1990).

Teachers also need to know their subjects from a pedagogical perspective (Wilson, Shulman, & Richert, 1987). This means understanding what students find confusing or difficult and having alternative explanations, models, and analogies to represent core concepts and processes. It means framing purposes for studying particular content and being familiar with some

well-designed curricular materials. It means understanding how core concepts and processes connect across fields and how they relate to everyday life.

Developing Understandings of Learners and Learning

In order to connect students and subject matter in age-appropriate and meaningful ways, prospective teachers must develop a pedagogical stance rooted in knowledge of child/adolescent development and learning. What are students like at different ages? How do they make sense of their physical and social worlds? How are their ways of thinking and acting shaped by language and culture? Informed perspectives on development and learning provide necessary frameworks for understanding students, designing appropriate learning activities, justifying pedagogical decisions and actions, and communicating with parents, students, administrators, and colleagues.

A related task is learning about the cultures that students bring to school. Increasingly many teachers find themselves teaching students whose racial, cultural, and socioeconomic backgrounds differ markedly from their own. Some teacher educators advocate teaching about different cultures directly; others emphasize the importance of helping prospective teachers explore their own biases and personal experiences with diversity. All recognize the need to cultivate the tools and dispositions to learn about students, their families, and communities and to build on this knowledge in teaching and learning (Ladsen-Billings, 1999; Zeichner & Hoeft, 1996).

Developing a Beginning Repertoire

Good teachers do many things to promote student learning. They lead discussions, plan experiments, design interdisciplinary units, hold debates, assign journals, conference with students, set up classroom libraries, organize a writer's workshop, take field trips, and so on. Good teachers know about a range of approaches to curriculum, instruction, and assessment; and they have the judgement, skill, and understanding to decide what to use when. Wasley, Hampel, and Clark (1997) call this a teaching repertoire which they define as "a variety of techniques, skills, and approaches in all dimensions of education—curriculum, instruction and assessment—that teachers have at their fingertips to stimulate the growth of the children with whom they work" (p. 45).

Preservice preparation is a time to *begin* developing a basic repertoire for reform-minded teaching. This means becoming familiar with a limited range of good curricular materials, learning several general and subject specific models of teaching, and exploring a few approaches to assessment that tap student understanding. The focus should not be on variety for its own sake,

but on helping teacher candidates figure out when, where, how, and why to use particular approaches.

Developing the Tools to Study Teaching

Preservice preparation is a time to begin forming habits and skills necessary for the ongoing study of teaching in the company of colleagues. Preservice teachers must come to see that learning is an integral part of teaching and that serious conversations about teaching are a valuable resource in developing and improving their practice.

The study of teaching requires skills of observation, interpretation, and analysis. Preservice students can begin developing these skills by analyzing samples of student work, comparing different curricular materials, interviewing students to uncover their thinking, studying how different teachers work toward the same goals, and observing what impact their instruction has on students. Carried out in the company of others, these activities can foster norms for professional discourse such as respect for evidence, openness to questions, valuing of alternative perspectives, a search for common understandings, and shared standards.

A CRITICAL APPRAISAL OF CONVENTIONAL PRESERVICE PROGRAMS AND PRACTICES

How well do conventional preservice programs address these central tasks? What programmatic and institutional factors limit their effectiveness? This section reviews some major problems and obstacles that contribute to widespread skepticism about teacher preparation and help explain its weak impact on teachers' beliefs and practices.

Most teachers enter teaching through a 4-year undergraduate program that combines academic courses and professional studies or a 5th-year program that focuses exclusively on professional studies. Academic requirements consist of arts and science courses including an academic major. Professional preparation includes courses in educational foundations and general and/or specific methods of teaching. Educational psychology is a staple in educational foundations, but courses in philosophy or history have been replaced with an "introduction to teaching" course. All programs require some supervised practice called student teaching.

These arrangements have been regularly criticized on conceptual and structural problems (Goodlad, 1994; Howey & Zimpher, 1989; Tom, 1997). Separate courses taught by individual faculty in different departments rarely build on or connect to one another, nor do they add up as a coherent preparation for teaching. Without a set of organizing themes, without shared standards, without clear goals for student learning, there is no framework

to guide program design or student assessment. No wonder students have difficulty developing a vision of good teaching or making connections among different domains of knowledge and skill.

The weak relationship between courses and field experiences is further evidence of the overall lack of coherence. Teacher education students regard student teaching as the most valuable part of their preparation. Still, they cannot count on regular opportunities to observe, analyze, and practice reform-minded teaching. At the same time, cooperating teachers often feel the need to protect student teachers from "impractical" ideas promoted by education professors who are out of touch with classroom realities. When the people responsible for field experiences do not work closely with the people who teach academic and professional courses, there is no productive joining of forces around a common agenda and no sharing of expertise.

Fragmentation, weak pedagogy, and lack of articulation also extend to the arts and sciences and their relationship to education. For a long time, teacher educators took subject matter preparation for granted, relying on the fact that prospective teachers completed a specified number of courses in the arts and sciences. Recently, serious questions have been raised about the adequacy of teachers' subject matter knowledge (Borko & Putnam, 1996). Some studies have shown that even when teachers major in their teaching subjects, they often have difficulty explaining basic concepts in their disciplines (National Center for Research on Teacher Learning, 1991).

Undergraduate education is currently under siege. The survey courses that dominate these programs provide limited opportunities to develop deep understanding and critical perspectives or to experience firsthand the modes of inquiry associated with different fields. Thus it is not surprising that teachers lack conceptual and connected knowledge of the subjects they teach.

The pedagogy of teacher education mirrors the pedagogy of higher education where lectures, discussions, and seat-based learning are the coins of the realm. Too often teacher educators do not practice what they preach. Classes are either too abstract to challenge deeply held beliefs or too superficial to foster deep understanding. All this reinforces the belief that the K-12 classroom is *the* place to learn to teach.

Also missing are well-designed opportunities to link theory and practice, develop skills and strategies, cultivate habits of analysis and reflection through focused observation, child study, analysis of cases, micro-teaching, and other laboratory experiences (Dewey, 1904; Howey, 1996; Smith, 1980). Nor do preservice programs make effective use of the peer socialization processes employed in other programs of professional preparation (Goodlad, 1994).

Obstacles to Effective Preservice Preparation

The obstacles to effective preservice preparation are legion. They include the low status of teachers and teacher educators, overregulation of preservice programs by the state, a pervasive anti-intellectualism, weak leadership, limited resources, and a lack of imagination on the part of teacher educators. In this discussion of teacher development, it seems particularly relevant to highlight the ways in which the culture and organization of universities and schools work against effective teacher preparation.

The university culture favors research over teaching and accords low status to clinical work. The primacy of academic freedom makes it difficult to engage faculty in programmatic thinking. The departmental structure discourages collaboration across specializations. There are no incentives for arts and science faculty to take responsibility for developing teachers' subject matter knowledge. There are few incentives for teacher educators to undertake the labor-intensive and time-consuming work of program development. Collaborating with practitioners may count as service, but it does not help in decisions about tenure and promotion. The university expects teacher education to generate revenue through high enrollments and large classes. There are few mechanisms to stimulate faculty renewal.

The culture of teaching and the organization of schools also serve as obstacles to effective field-based teacher preparation. Schools are not organized for teachers to work together on problems of practice in serious and sustained ways. With no tradition of inquiry, collaboration, or experimentation, there is a strong press to maintain the status quo. A culture of politeness and consensus makes it hard to confront differences in teaching philosophy and practice. Egalitarian norms make it difficult to single out some teachers for participation in teacher preparation. Teachers are supposed to work with students. Anything that takes them away from their main responsibility is considered a problem rather than an opportunity for professional development or professional service.

PROMISING PROGRAMS AND PRACTICES

While teacher preparation faces major obstacles, reformers are beginning to address some of the familiar problems. In the past decade, much solid groundwork has been accomplished through the efforts of organizations like the Holmes Group (now Partnership) and the National Network for Educational Renewal and through ongoing program development in institutions with long-standing traditions of innovation in teacher education. Despite the perceived wisdom that teacher preparation is a weak intervention, preservice programs can make a difference, especially when they are organized around an explicit and thoughtful mission and conceptual frame-

work, integrate courses and fieldwork, use student and/or faculty cohorts to intensify the experience and attend to students' entering beliefs and their evolving professional identity and practice (Barnes, 1987; Howey & Zimpher, 1989; National Center for Research on Teacher Learning, 1991).

Support for this claim comes from recently completed case studies of seven well-regarded preservice programs oriented toward "learner-centered and learning-centered teaching" (Darling-Hammond & MacDonald, 2000). Located in different types of institutions (liberal arts college, single purpose institution, research university), the programs differ in structure (4 year, 5 year, 5th year) and focus (early childhood, elementary, secondary). Beyond their structural differences, the programs share certain characteristics which help account for their distinctive quality and impact. These programs derive more from their substantive orientation and commitments and their ways of working with students.

The influence of substance over structure fits with findings from the Teacher Education and Learning to Teach (TELT) study, a study of over 700 teachers and teacher candidates in 11 structurally diverse teacher education programs across the United State. Conducted by the National Center for Research on Teacher Learning, the TELT study was designed to shed light on what actually goes on in diverse teacher education programs and what teachers learn as they participate in these programs over time. Summarizing the findings, researchers concluded,

Although the debates in teacher education tend to be about the structure of teacher education programs, the TELT data suggest that the content and orientation of programs are more likely to influence teacher learning. Differences in beliefs and knowledge about teaching practices, diverse learners, and subject matter among teacher candidates at the end of the preservice programs studied were largely a function of their entering beliefs and knowledge of the conceptual orientation of the program. Differences across program structures did not produce noticeable differences in teacher candidates' beliefs. (NCRTL, 1991, p. 6)

Because of their clear association with a reform agenda consistent with this discussion, I draw on a set of case studies of preservice programs sponsored by the National Commission on Teaching and America's Future (Darling-Hammond, 2000) to illustrate some promising practices in context. Often accounts of promising practices in preservice teacher education highlight isolated practices. In learning to teach, however, the educational whole is greater than the sum of its parts. Individual strategies such as the use of student/faculty cohorts, case-based teaching, well-structured field assignments, and portfolio assessments may represent important changes in practice, but their meaning and impact depend on the overall purposes

they serve. And these, in turn, are influenced by a program's conceptual orientation.

Conceptual Coherence

The lack of articulation and the fragmented nature of most conventional preservice programs underscore the need for conceptual coherence. Howey (1990) makes the case in the following way: "Advocacy for more coherence seems appropriate given the number of preservice programs that superficially engage students in a large number of disparate and unconnected ideas and practices" (p. 150). I am not arguing that coherence is a good in itself, although a coherent program is more likely to have desired effects. Everything depends on the quality of the ideas that give the program direction and purpose.

A conceptual framework is the "cornerstone" of a coherent program (Howey, 1990). It provides a guiding vision of the kind of teacher the program is trying to prepare. It offers a view of learning, the role of the teacher, and the mission of schooling in a democracy. It provides a set of understandings about learning to teach. More than rhetoric, the values and ideas that make up a program's mission and conceptual framework inform the design and sequencing of courses and field experiences. They may get translated into specific themes or core abilities. They shape curriculum, culture, pedagogy, and assessment practices.

Each of the seven programs has a set of guiding values and beliefs which give it a distinctive ethos and provide the basis for a cohesive curriculum and a sequence of integrated learning opportunities. Some of the programs, especially those for early childhood and elementary teachers, derive much of their conceptual coherence from a strong developmental orientation which shapes their approach to teaching. For example, faculty at Wheelock College combine the traditional notion of development as an unfolding of abilities and interests with attention to issues of culture, diversity, and inclusion. Students talk about "the Wheelock way" which is "child-centered, community-based, and family focused" (Miller & Silvernail, 2000). Bank Street College, deeply rooted in a progressive vision of educational goals and possibilities, also projects and promotes a developmental stance toward learners and learning. One of the signature courses, "Observation and Recording, teaches prospective teachers to look closely at children and their development, to see them as growing individuals, and to find ways to foster their learning" (Darling-Hammond and MacDonald, 2000).

Clear goals and vision animate the elementary education program at Alverno College. The entire program is designed around a set of eight general education abilities and five professional abilities that define the kind of teacher the program seeks to prepare. The abilities, which must be

“validated” at several developmental levels in multiple contexts, spell out the knowledge, skills, and dispositions students must demonstrate to complete the program and receive their elementary certification. The ability-based curriculum and its associated performance-based assessment system give faculty, students, cooperating teachers, and principals a common language for talking about teaching and learning and communicating clear expectations (Zeichner, 2000).

Purposeful, Integrated Field Experiences

The purposeful design and use of field experiences is another manifestation of program coherence. I treat it separately because of the critical and complex role that classroom experiences play in learning to teach during preservice preparation. Observation, apprenticeship, guided practice, knowledge application, and inquiry all have a place in field-based learning. Teacher candidates need opportunities to test the theories, use the knowledge, see and try out the practices advocated by the academy. They also need opportunities to investigate problems and analyze situations that arise in the field. Recent reform proposals call for teacher candidates to spend extended periods of time in professional development schools, internships, and other clinical sites. The real challenge for teacher educators is to see that prospective teachers not only have appropriate and extended field experiences but that they learn desirable lessons from them.

The seven preservice case studies are full of promising practices in field-based teacher preparation. All the programs use carefully structured field assignments to situate theoretical learning in practice and to promote reflection. Several programs require systematic child study as a vehicle for connecting perspectives on human development and learning with the study of individual students. One assigns the design, teaching, assessment, and public presentation of an interdisciplinary unit as a way to help teacher candidates “knit it all together” (Whitford, Ruscoe, and Fickel, 2000). Most use some combination of reflective logs, dialogue journals, weekly cohort-based seminars, and individual conferences to help teacher candidates develop the capacity to learn from the experience and analysis of their own and other’s practice.

Through a careful sequence of multiple placements, some with their own graduates, programs make it possible for teacher candidates to see and practice the kind of teaching they are learning about in their courses as they move from observation to limited participation to full responsibility with appropriate modeling and supervision. For instance, Bank Street students take some of their courses and do some of their fieldwork in the Bank Street School for Children, an independent, progressive demonstration school which features an interactive process of curriculum building

across all grade levels and subjects. Elementary education students at Alverno College experience a variety of grade levels, socioeconomic and cultural groups, and educational approaches in a careful sequence of field experiences and student teaching spread over 5 semesters. At least two of the field placements and one of two 9-week student teaching placements occurs in the Milwaukee Public Schools. All student teachers work with cooperating teachers who have completed a special course offered three times a year. Mentoring and assessment are closely tied to the ability framework. The University of Southern Maine immerses teacher education students in classroom practice during a 9-month internship organized around 2-semester-long placements. Clear guidelines spell out expectations for instructional planning, degree of lead responsibility for teaching, required videotaping, and dialogue journals. Weekly visits by site coordinators and a weekly seminar help interns analyze and document their learning in relation to 11 program outcomes. Such careful attention to preservice teachers as learners is another distinguishing feature of exemplary programs.

Attention to Teachers as Learners

Just as student learning is the desired outcome of teaching, so teacher learning is the desired outcome of teacher education. Exemplary preservice programs support continuity in preservice students' learning by providing a dynamic culture and a coherent curriculum, by monitoring students' personal responses to new ideas and experiences, and by offering an appropriate mixture of support and challenge in response to students' changing knowledge, skills, and beliefs.

A focus on teachers as learners begins with a recognition that preservice students come with images and beliefs that must be extended or transformed. It is reflected in deliberate efforts by teacher educators to model the kind of interactive, content-rich teaching they are trying to promote and to create opportunities for preservice students to experience that teaching as learners. (This is especially critical when preservice students have not been exposed to such practices in their own K-12 schooling.) It is supported by opportunities to put into words one's evolving philosophy of teaching and to engage in ongoing assessment in relation to personal goals and shared professional standards.

The advisement system at Bank Street College provides a clear example of how one exemplary program insures continuity in preservice teachers' learning and pays careful attention to their personal and professional development. Researchers call advising the "glue" that holds the different learning experiences together and the "linchpin" for the enactment of a caring learning community. Advisors are faculty members with extensive classroom experiences. They work closely with six to eight students for at least

a year, meeting them individually every other week, convening weekly conference group meetings, arranging placements, and supervising field experiences. Advisors help students integrate and interpret their experiences in the program, develop self-understanding, and evolve a personal philosophy of teaching. The personal/professional relationships between advisors and students reflect the centrality of relationships in teaching and learning and model the kind of relationship graduates are supposed to form with their own pupils (Darling-Hammond and MacDonald, 2000).

How do the graduates of these programs fare as beginning elementary and secondary teachers? Interviews and observations with one or two graduates from each program show them working hard to teach as they were taught in their preservice preparation, although some face skepticism from colleagues wary of their ambitious goals for learners and their progressive teaching methods. Yet even these well-started novices have more to learn if they are to master the kind of demanding teaching they learned about in their teacher preparation and are to work effectively with their colleagues to improve education for all students.

"No matter what initial preparation they receive," writes Carol Bartell (1995), a leader in California's efforts to develop new teacher programs and policies, "teachers are never fully prepared for classroom realities and for responsibilities associated with meeting the needs of a rapidly growing, increasingly diverse student population" (p. 28–29). Recognizing the inevitable limitations of preservice preparation provides an important justification for induction programs. Educators still have to figure out how to help novices connect the "text" of their preservice program to the "contexts" of contemporary classrooms (Dalton & Moir, 1996).

TEACHER LEARNING DURING THE INDUCTION PHASE

New teachers have two jobs—they have to teach and they have to learn to teach. No matter how good a preservice program may be, there are some things that can only be learned on the job. The preservice experience lays a foundation and offers practice in teaching. The first encounter with real teaching occurs when beginning teachers step into their own classroom. Then learning to teach begins in earnest.

The first years of teaching are an intense and formative time in learning to teach, influencing not only whether people remain in teaching but what kind of teacher they become. As Bush (1983) explains,

The conditions under which a person carries out the first years of teaching have a strong influence on the level of effectiveness which that teacher is able to achieve and sustain over the years; on the attitudes which govern teachers' behavior over even a forty year career;

and, indeed, on the decision whether or not to continue in the teaching profession. (p. 3)

Researchers characterize the first years of teaching as a time of survival and discovery, adaptation and learning (Nemser, 1983). According to one school of thought, novices rely on trial and error to work out strategies that help them to survive without sacrificing all the idealism that attracted them to teaching in the first place. They continue to depend on these strategies whether or not they represent best practice (Lacey, 1977; Lortie, 1975). According to another school of thought, beginning teachers face personal concerns about acceptance, control, and adequacy which must be resolved before they can move on to more professional considerations about teaching and student learning (Fuller, 1969; Kagan, 1990). Many assume that classroom management is the major preoccupation, but case studies of new teachers provide a more dynamic and contextualized picture (Bullough, 1989; Grossman, 1990). Clearly the experience of beginning teaching and the lessons learned derive from a complex interaction of personal and situational factors.

Teacher induction is often framed as a transition from preservice preparation to practice, from student of teaching to teacher of students. As these phrases imply, induction brings a shift in role orientation and an epistemological move from knowing about teaching through formal study to knowing how to teach by confronting the day-to-day challenges. Becoming a teacher involves forming a professional identity and constructing a professional practice. Both aspects of learning to teach must unfold in ways that strengthen the beginning teacher's capacity for further growth.

CENTRAL TASK OF TEACHER INDUCTION

What do novices in the first 3 years of teaching need to learn? What are the central learning tasks of a reform-oriented curriculum for new teacher induction? Some general answers to these questions can be offered based on an understanding of beginning teacher learning and a commitment to meet new teachers where they are and move their practice toward ambitious, standards-based teaching and learning. The actual curriculum in a given program must take into account the preparation new teachers bring and the realities they encounter and must extend across a reasonable span of time (2–3 years).

The situation in which new teachers find themselves is inherently paradoxical. Like all beginning professionals, they must demonstrate skills and abilities that they do not yet have and can only gain by beginning to do what they do not yet understand (Schon, 1987). This places beginning teachers in a vulnerable position. Moreover the work of teaching, itself

complex, uncertain, and full of dilemmas, sharpens the paradox by reminding beginning teachers at every turn of what they cannot yet do.

Gaining Local Knowledge of Students, Curriculum, and School Context

Charged with the same responsibilities as their more experienced colleagues, beginning teachers are expected to perform and to be effective. Yet most aspects of the teaching environment are unfamiliar—students, curriculum, administrative policies and procedures, testing requirements, professional norms, the larger community. While novices deserve relevant information in a timely fashion and easy access to answers as questions arise, much of what they need to understand cannot be explained once and for all.

Beginning teachers need to learn what the expected goals and outcomes are for students at their grade level and what materials and resources are available. They need to understand how these expectations fit into the larger school or departmental curriculum and how they relate to district, state, and national standards and testing. Most important, they need to figure out how to interpret and to use this information in their teaching.

Beginning teachers need to learn about the larger community. What structures are in place for teachers to communicate with parents? What community services and resources are available? How do other teachers establish productive relationships with families and work together on behalf of students and their education?

Besides learning what is generally expected and taught in specific subjects for particular grade/age levels, novices must learn about their students—who they are and what knowledge, interests, and life experiences they bring—and use this knowledge in developing curriculum.

Designing Responsive Curriculum and Instruction

To create a responsive curriculum, new teachers must bring together their knowledge of content and their knowledge of particular students in making decisions about what and how to teach over time and then make adjustments in response to what happens. To teach in ways that are responsive to students' thinking, they must also learn how to elicit and interpret students' ideas and to generate appropriate pedagogical moves as a lesson unfolds. Learning to listen to what students say and to construct appropriate responses on a moment to moment basis places special demands on new teachers. This challenging aspect of ambitious teaching takes time to learn and can only be developed in the context of teaching.

Enacting a Beginning Repertoire in Purposeful Ways

If preservice preparation has been successful, beginning teachers will have a compelling vision of good teaching and a beginning repertoire of approaches to curriculum, instruction, and assessment consistent with that vision. A major task of induction is helping new teachers enact these approaches purposefully with their students by developing the necessary understanding and flexibility of response. The multiple challenges of teaching alone for the first time can discourage new teachers from trying ambitious pedagogies. Good induction support can keep novices from abandoning these approaches in favor of what they may perceive as safer, less complex activities. It can also help novices attend to the purposes not just the management of the learning activities and their meaning for students.

Creating a Classroom Learning Community

Every year teachers must create and maintain a classroom learning community that is safe, respectful, and productive of student learning. This task covers a wide range of responsibilities from setting up the physical environment and establishing rules and routines, to promoting cooperation, managing disruptions, and teaching democratic processes and problem solving strategies. It involves building a classroom culture that supports intellectual risk-taking.

Issues of power and control lie at the heart of this task which is tied up with novices' evolving professional identity. Compounding the uncertainties about what stance to take and how to respond to the myriad situations that arise is the fear of judgment from students, colleagues, administrators, and themselves. If teachers are judged by how quiet and well behaved their classes are, they may avoid active or complex learning activities because they do not yet know how to manage them.

Developing a Professional Identity

Beginning teachers must consolidate a professional identity. Often beginning teachers struggle to reconcile competing images of their role, for example, the need to be an authority in areas of discipline and classroom management with the desire to be perceived as a friendly person, the need to prepare students for the "real world" with the desire to be a nurturing caregiver who is responsive to individual differences (Bullough & Knowles, 1991; Ryan, 1970). Constructing a professional identity is a complex, ongoing process. Beginning teachers form a coherent sense of themselves as professionals by combining parts of their past, including their own experiences in school and in teacher preparation, with pieces of the present in

their current school context with images of the kind of teacher and colleague they want to become and the kind of classroom they want to create (Featherstone, 1993).

Learning in and from Practice

To develop their practice and improve as teachers, novices must learn to use their practice as a site for inquiry (Ball & Cohen, 1999). This means turning confusions into questions, trying something out and studying the effects, and framing new questions to extend one's understanding. Such work depends on skills of observation and analysis and the dispositions to seek evidence, take risks, and remain open to different interpretations.

The ongoing study and improvement of teaching is difficult to accomplish alone. Novices need opportunities to talk with others about their teaching, to analyze their students' work, to examine problems, and to consider alternative explanations and actions. If novices learn to talk about specific practices in specific terms, if they learn to ask for clarification, share uncertainties, and request help, they will be developing skills and dispositions that are critical in the ongoing improvement of teaching.

INDUCTION BY DEFAULT AND DESIGN: A CRITICAL APPRAISAL OF CURRENT PRACTICE

Induction happens with or without a formal program, and it is often an abrupt and lonely process. The problems with "sink or swim" induction are well documented. In far too many places new teachers must learn the ropes on their own. The cost is high. Up to one third of new teachers leave the profession within the first 3 years, a fact that falls heaviest on urban schools. Even when teachers remain, they may lose their ideals and lower their expectations for student learning.

Sometimes a beginning teacher gets help from a well-meaning colleague. This kind of informal buddy system may work for the fortunate novice who gets adopted, but it hardly represents an adequate response to the larger need. Relying on the good will of experienced teachers to reach out on their own initiative ignores the learning challenges that beginning teachers face and the need for a more sustained and systematic approach to their development.

The emergence of formal programs for beginning teachers in their early years on the job is a relatively recent phenomenon. Currently 27 states have a formally approved and implemented statewide support system for beginning teachers; and most urban districts, especially the larger ones, offer some kind of support to beginning teachers, usually in the form of mentoring (Fideler & Haselkorn, 1999).

Despite widespread interest, however, the overall picture is uneven. Most induction mandates do not rest on an understanding of teacher learning, a vision of good teaching or a broad view of the role formal induction can play in new teacher development. Often they lack the necessary resources to support effective programs. Even when formal programs exist, they may not help beginning teachers teach in ways that foster complex learning on the part of students. Research shows that mentoring, the most popular induction strategy, sometimes reinforces traditional norms and practices rather than promoting more powerful teaching (Feiman-Nemser & Parker, 1993).

Narrow Vision

Most induction programs confine their attention to the 1st year of teaching, maintaining a narrow vision of what they should accomplish. Instead of viewing induction as part of a broad continuum of professional learning opportunities for teachers, induction is regarded as short-term support designed to ease new teachers' entry into teaching and help them cope with their 1st year on the job. The narrow vision goes hand in hand with a lack of coordination between preservice providers and those responsible for induction programs.

Support is the dominant orientation and focus of most induction programs (Gold, 1996; Huling-Austin, 1990). Support is the omnibus term used to describe the materials, advice, and hand-holding that mentors offer new teachers. While supporting new teachers is a humane response to the very real challenges of beginning teaching, it does not provide an adequate rationale. Unless we take new teachers seriously as learners and frame induction around a vision of good teaching and compelling standards for student learning, we will end up with induction programs that reduce stress and address immediate problems without promoting teacher development and improving the quality of teaching and learning.

Constraints on Mentoring

Assigning experienced teachers to work with novices is the favored induction strategy, and most programs have a mentoring component. Still mentor teachers may not have adequate preparation or time to work with beginning teachers, and they may not define their role and responsibilities in educational terms. Moreover the widespread assumption that good teachers automatically make good mentors does not hold (Feiman-Nemser, 1998b).

In one comparative study, researchers found striking differences in the way mentor teachers defined and enacted their role which they linked to differences in selection, training, and time for mentoring (Feiman-Nemser

& Parker, 1993). Some mentors defined their responsibilities in terms of emotional support and short-term technical assistance. They explained local policies and procedures, shared materials, answered questions, and gave advice. Willing to help with any problem, they often pulled back as soon as their novice seemed more confident. Researchers called these mentors "local guides."

Some mentors defined their role in educational terms. They still helped novices with immediate problems, but they also kept their eye on professional goals such as helping novices focus on student thinking and on developing sound reasons for their actions. Often they worked toward these goals by inquiring with novices into the particulars of their teaching situation, asking questions such as, "What sense did students make of the assignment?" "Why did you decide on this activity?" "How could we find out whether it worked?" Researchers called these mentors "educational companions."

A few mentors saw themselves as "agents of change." They deliberately worked to reduce the traditional isolation among teachers by encouraging collaboration and shared inquiry. They built networks among novices and between novices and their more experienced colleagues by arranging visits to other classrooms and facilitating serious conversations among teachers about teaching.

Mentors with limited ideas about their role tended to have limited time to mentor. Forced to fit mentoring in around the edges of full-time teaching, they leaned toward "fixing" novices' problems rather than treating them as occasions for joint problem solving or shared inquiry. Nor did their training promote an expanded vision of mentoring. Mentors who saw their work in educational terms had regular opportunities to develop their skills as mentors and form a vision of mentoring as a vehicle for educational change.

Forced Choice Between Assistance and Assessment

Many leaders in the induction movement believe that assistance and assessment are incompatible functions which should not be carried out in the same program and certainly not by the same person (Huling-Austin, 1990). They argue that new teachers, eager to make a good impression, will be reluctant to share problems and ask for help if they have to worry about being evaluated. They point out that high stakes evaluation for purposes of licensing or continued employment is traditionally an administrative function.

The sharp dichotomy between assistance and assessment seems short-sighted if we think of induction in terms of a broad continuum of learning opportunities for teachers. New teachers and those responsible for their

learning need a defensible basis for deciding what to work toward and some means of determining how they are doing. This is the role of formative assessment. The biggest danger in linking induction and high stakes assessment is the possibility that states and district will adopt new assessments and licensing standards without providing adequate resources to help new teachers learn to meet those standards in practice.

Constraining Conditions in Schools

Even the best induction programs cannot compensate for giving beginning teachers the most difficult classes or for assigning them to teach subjects for which they have little or no preparation. Nor does the dominant culture of teaching and the social organization of schooling support quality induction programs (Little, 1990).

When staffing needs and teacher contracts work against appropriate and responsible placements for beginning teachers, induction is only a Band-Aid. Nor will assistance do much good when novices work in schools where poor facilities, inadequate resources, low morale, and high teacher turnover undermine efforts to teach or to learn to teach. Many beginning teachers find themselves coping with more classes than usual, teaching outside their areas of qualification, or dealing with known behavior problems (Fideler & Haselkorn, 1999). Such inappropriate assignments jeopardize student learning, devalue teacher expertise and experience, and ignore the fact that beginning teachers are novices.

The social organization of schooling and the culture of teaching also make it difficult for mentors and novices to work together in productive ways. While some schools promote active collaboration among teachers, such interactions are the exception, not the rule. For the most part, teaching is a highly personal, often private activity. Teachers work alone in their classrooms, out of sight of other colleagues and protected by norms of autonomy and noninterference (Little, 1990; Lortie, 1975). This means that most teachers have little experience with the core activities of mentoring—observing and talking with other teachers about teaching and learning. They rarely see another teacher's practice, and they have limited opportunities to talk about teaching in systematic and rigorous ways (Feiman-Nemser, 1998a).

Norms of politeness and the desire for harmony create additional barriers to productive mentoring interactions. Many beginning teachers are reluctant to reveal problems or ask for help, believing that good teachers work things out for themselves. Mentors may withhold assistance due to the enduring belief that teaching is a highly personalized practice of finding one's own style.

PROMISING PROGRAMS AND PRACTICES

In the last decade or so, researchers, state policy makers, and various professional organizations have put forward recommendations and standards regarding quality induction programs.² Most call for a multiyear, integrated approach to new teacher support, development, and assessment based around high standards for teaching and learning, built on school/university partnerships, and featuring a strong mentoring component. Descriptions of well-regarded programs provide some picture of what this looks like in practice. Besides these programmatic features, effective induction depends on appropriate assignments and a collaborative school culture.

Appropriate Assignments

Effective induction depends on workplace conditions that meet the beginning teacher's need for assisted entry into professional roles, responsibilities, and school norms (Fideler & Haselkorn, 1999). In strong induction settings, principals see that novices get assignments where they are most likely to succeed. This means assignments that can be handled at a level appropriate to their stage of development. A big challenge is figuring out what to do in districts that face severe teacher shortages and end up assigning novices to classes that they are not ready to handle. One solution is to have strong teachers team up with novices so that they can teach and learn side-by-side with highly skilled mentors. To make this possible, unions and districts will have to accept responsibility for creating appropriate structures and incentives. For example, in some districts with career ladders, peer assistance, and review programs, lead teachers coordinate grade-level teams composed of experienced and novice teachers.

Connected to the issue of appropriate assignments for new teachers is the idea of a reduced teaching load. Howey & Zimpher (1999) state the case succinctly: "Beginning teachers should experience a reduced load, perhaps sharing a classroom or teaching assignment, so that specific times during the school day can be dedicated to working with their mentor in the assessment of their teaching" (p. 298). This echoes a proposal by the National Commission on Teaching and America's Future (1996) that the first 2 years of teaching be structured like a residency in medicine with teachers regularly consulting an experienced teacher about the decisions they are making and receiving ongoing advice and evaluation. This kind of continuing support and guidance requires adjustments in the assignments of both resident teachers and their mentors, a situation which will require collaboration and negotiation between schools and universities (see discussion on partnerships later in this chapter).

Developmental Stance, Time Frame, and Curriculum

Strong induction programs have a multiyear time frame and a “developmental” stance. Two years is common, but three might be preferable given the time it takes for beginning teachers to develop a professional identity and consolidate a professional practice. In a multiyear program, the induction curriculum can help new teachers with immediate concerns and also move them toward more sophisticated understandings and practices over time. Programs with a developmental stance work from individual teacher’s needs and strengths within a shared understanding of good teaching practice. One thoughtful support (mentor) teacher captured this dual focus in explaining how he sees his role: “Being a support teacher means helping people grow and become good teachers. It’s a combination of basing teaching techniques on what we know about children and learning and what we are like as people, our personalities, interests, inclinations” (Feiman-Nemser, 1998a).

The Santa Cruz New Teacher Project (SCNTP), the longest running formal induction in California, has translated a developmental stance into a 2-year program that offers individualized assistance to 1st and 2nd year teachers. Full-time mentors, called advisors, meet weekly with each new teacher for 2 hours before, during, or after school. During these visits they do demonstration lessons, observe, coach, coteach, and assist with emergent problems (Moir, Gless, and Barron, 1999).

Advisors also gather performance data to help new teachers assess their progress on a “Developmental Continuum of Teaching Abilities” developed by the Project and aligned with California’s Standards for the Teaching Profession. The continuum helps new teachers and advisors visualize concretely what growth or development looks like by mapping teacher behavior onto a 5-step scale (Moir & Dalton, 1996). Based on their assessments, advisors and new teachers create individual learning plans which get revised over time.

Monthly after-school seminars give 1st- and 2nd-year teachers a chance to share successes and discuss challenges with their peers. They also allow the SCNTP to focus the attention of new teachers on different teaching standards and topics such as literacy, language development, and strategies for working with diverse teaching populations. The individualized curriculum of the advisor/novice pair and the common curriculum of the monthly seminars allow the SCNTP to address both short- and long-term goals for new teacher development.

Integrating Assistance and Assessment

Serious induction programs combine new teacher support, development, and assessment. They rely on common frameworks (e.g., professional teach-

ing standards) and use performance assessments (e.g., observations, portfolios). The integration of these functions takes different forms, suggesting new directions for induction policy and practice.

Formative assessment is a central feature of California's Beginning Teacher Support and Assessment (BTSA, 1997) Program, which serves 1st- and 2nd-year teachers who have completed preservice preparation. Support providers and beginning teachers work together to identify each new teacher's strengths and areas of growth through a formative assessment process. Using assessment data, they develop an Individual Learning Plan that identifies professional development activities to improve the new teacher's knowledge and practice. The California Standards for the Teaching Profession provide a framework for ongoing formative assessment and a common language for talking about teaching.

Connecticut's Beginning Teacher Support and Training Program integrates assistance with formative and summative assessment, but different people are responsible for the two kinds of assessment. All new teachers work with a school-based mentor or team who responds to their instructional and noninstructional needs and helps them prepare for assessments in their 1st and 2nd year of teaching. First-year teachers participate in an assessment process that reflects Connecticut's "essential teaching competencies." Second-year teachers compile a teaching portfolio that is assessed by trained assessors using criteria from content-specific professional teaching standards. When beginning teachers meet the acceptable standard, they are recommended for provisional certification (Connecticut State Department of Education, 1997).

A third approach is found in peer assistance and review programs. Following the example of Toledo, Ohio, three additional cities—Cincinnati and Columbus, Ohio, and Rochester, New York—have negotiated induction programs in which veteran teachers, on leave for up to 2 years, provide assistance to beginning teachers and make recommendations about contract renewal. Union leaders argue that practicing teachers should make decisions about who enters the teaching profession. Clearly the move to connect initial licensing to demonstrated performance must be coupled with appropriate learning opportunities that help new teachers develop a strong teaching practice and that prepare them to meet professional teaching standards.

Strong Mentoring Component

Just as all students deserve caring and competent teachers, all beginning teachers deserve caring and competent mentors. Well-prepared mentor teachers combine the knowledge and skills of a competent classroom teacher with the knowledge and skills of a teacher of teaching. In the words of one elementary mentor teacher: "I really need to help my novice learn to teach.

That's my job. I'm in a teaching role" (quoted in Feiman-Nemser, 1998b, p. 72).

Strong mentoring programs use careful processes to select, prepare, and support mentor teachers in their ongoing work with novices. They insure adequate time for mentoring and appropriate compensation. In some programs, mentors are released from their classrooms full-time to work with novices for 1–3 years. In others, mentors combine mentoring with classroom teaching. Most programs provide training before mentors begin working with novices. Strong programs also bring mentor teachers together on a regular basis to talk about their work with novices and deepen their knowledge and skills as mentors. In general this is only possible when mentors are full-time.

Mentoring can be a powerful professional development experience for veteran teachers. As they hone their skills of observation and analysis, coaching and assessment, collaboration and inquiry, mentor teachers are developing the tools for the study and ongoing improvement of teaching with fellow teachers. In this way mentor teachers become a resource for schools and districts as well as for teacher education programs.

Partnerships and Collaboration

Serious induction that builds on preservice preparation, promotes thoughtful standards-based teaching, and prepares new teachers for initial licensure requires partnerships. No single institution has the expertise, authority, or financial resources to create the necessary structures and learning opportunities. Schools, universities, teacher unions, and the state all have an important part to play.

"Nowhere is the absence of a seamless continuum in teacher education more evident than in the early years of teaching," Howey and Zimpher (1999) write. "At the same time, no point in the continuum has more potential to bring the worlds of the school and the academy together into a true symbiotic partnership than the induction stage" (p. 297). Universities need schools to help them prepare and induct beginning teachers. Schools cannot extend initial preparation through the early years of teaching unless they coordinate their efforts with providers of preservice education.

Since there are few examples of such relationships, we can only imagine the benefits to new teachers, schools, and universities. New teachers would experience greater coherence and continuity in learning to teach if their induction into teaching were in the hands of school-based educators who understood and valued what preservice programs were trying to accomplish because they were part of its design and delivery. With some practical experience under their belts, new teachers might revisit some of the subjects they had previously studied and discover new meaning.

Building an induction program that extends and enriches initial preparation and addresses the realities of specific teaching contexts would provide a forum for school and university educators to think together about the learning needs of teachers and K–12 students. It would also provide a basis for designing more powerful and coherent forms of ongoing professional development.

PROFESSIONAL DEVELOPMENT

In the past, work-related learning opportunities for practicing teachers were more likely to be called “inservice training” or “staff development.” These days the preferred term is “professional development.” Inservice training connotes a deficit model of teacher learning in which outside experts supply teachers with knowledge they lack. Staff development evokes images of teachers implementing new programs in response to external mandates. The “new” paradigm of professional development calls for ongoing study and problem solving among teachers in the service of a dual agenda—promoting more powerful student learning and transforming schools (Lieberman, 1995).

The term “professional development” has an interesting ambiguity. On the one hand, it refers to the actual learning opportunities which teachers engage in—their time and place, content and pedagogy, sponsorship and purpose. Professional development also refers to the learning that may occur when teachers participate in those activities. From this perspective, professional development means transformations in teachers’ knowledge, understandings, skills, and commitments, in what they know and what they are able to do in their individual practice as well as in their shared responsibilities. We know something about the kinds of opportunities that promote these changes, but researchers are just beginning to study how teacher learning bears on student learning (Wilson and Berne, 1999).

Thompson and Zeuli (1999) add a further layer of meaning to professional development by connecting teachers’ learning to the collective learning of the profession. They define professional development as “learning by widening circles of teachers, so that it is not only these teachers’ knowledge but the whole profession that develops” (p. 367). Implicit in this definition of professional development is a view of teachers as constructors of knowledge and transformers of culture.

CENTRAL TASKS OF EARLY PROFESSIONAL DEVELOPMENT

Following the induction stage in learning to teach, researchers have identified a second stage of experimentation and consolidation and a third stage of mastery and stabilization (Berliner, 1986; Huberman, 1989; Watts,

1980). The stages are loosely tied to experience, with stabilization occurring around the 7th year of teaching. They suggest that, over time, most teachers develop instructional routines, learn what to expect from students, and settle into teaching patterns with confidence and with a sense of having arrived.

These generic and generalized models of learning to teach provide limited help in thinking about how teachers learn ambitious forms of teaching. Silent about the kind of teaching being learned, they assume individual teachers learn conventional practices on their own. At the same time, they support the case that achieving initial mastery even of conventional teaching takes much longer than most people believe, that it requires 5 to 7 years.³ Obviously, learning continues for thoughtful teachers as long as they remain in teaching.

In discussing the central tasks of *early* professional development, I focus on this time period, imagining “next steps” in learning to teach for teachers who are no longer rookies but who are still in the early stages of their career. I have in mind 3rd- to 5th-year teachers who have completed a strong preservice program, made a successful transition to beginning teaching, and are ripe for continuing professional development oriented around a reform agenda.

Deepening and Extending Subject Matter Knowledge for Teaching

A continuing task for teachers who want to connect students and subject matter in powerful ways is deepening and extending knowledge of subject matter as represented by the disciplines and understood by students. This is a particularly important task for elementary teachers who teach a broad range of subjects. Secondary teachers also have to keep up with new developments in their field and continue learning how “big ideas” connect within and across fields and to the world outside school.

With a better grasp of what they are responsible for teaching, postinduction teachers are in a good position to identify areas of content they want to strengthen. With more contextualized knowledge of students, they can concentrate on building both content knowledge and pedagogical content knowledge to enrich their curriculum and help them deal more effectively with concepts, topics, and procedures that students find difficult or confusing.

Extending and Refining One's Repertoire

The postinduction phase is a critical time for repertoire development in all areas of teaching—curriculum, instruction, and assessment. With a few years of classroom experience, teachers at this stage can concentrate on refining the interactive, inquiry-oriented instructional strategies they favor.

Less tied to textbooks or a prescribed curriculum, they can work on gathering materials and designing units that build on student interests. Besides experimenting with different approaches to assessment, they can work on interpreting the information they gather and figuring out how to use it to support student learning.

Well-prepared, beginning teachers may use innovative strategies and create rich classroom environments without knowing how to realize fully the learning potential of these strategies and contexts with their students. For instance, they may use cooperative learning, math journals, manipulatives, or group inquiry projects without knowing how to structure these activities, when and how to intervene in ways that move thinking forward, and how to assess student understanding. No longer overwhelmed with the newness of everything, postinduction teachers can target aspects of their repertoire that they want to refine and strengthen.

Strengthening Dispositions and Skills to Study and Improve Teaching

In order to continue learning in and from teaching, teachers must be able to ask hard questions of themselves and their colleagues, to try something out and study what happens, to seek evidence of student learning, and explore alternative perspectives. Because of their preservice and induction experiences, postinduction teachers should be more comfortable having someone observe their teaching or comment on their students' work. They should also be open to working on critical problems with colleagues that invite deeper inquiry and critique.

Expanding Responsibilities for Leadership Development

While beginning teachers have their hands full with the challenges of classroom teaching, postinduction teachers are ready to play a more active role in the larger school community, sitting on committees, working with families, planning faculty meetings, and participating in school-based decision making. First year teachers are still learning the context; postinduction teachers can learn to work with colleagues to improve that context. If postinduction teachers have been socialized into a professional view of their role as curriculum developers, child advocates, and agents of change, they will seek opportunities to participate more fully in the life of the school and the profession; and they will develop their leadership skills in the process. Toward the end of this phase, some postinduction teachers may be ready to begin working with preservice students, an opportunity that will help them see and appreciate the growth of their own knowledge and skills.

CONVENTIONAL APPROACHES AND THEIR LIMITATIONS

Professional learning opportunities for experienced teachers generally take two forms: mandated staff development sponsored by school districts and university courses offered as part of a graduate degree program. Both rest on a problematic view of learning in which teachers “get” knowledge or skills from outside experts which they somehow “apply” in their work. Neither is well suited to helping teachers transform complex knowledge and skills into powerful teaching practices.

Conventional staff development is largely a dissemination activity. Teachers attend full- or half-day sessions in which outside experts give inspirational lectures, report the latest research findings, and introduce new techniques and strategies. Teachers have little say about the content of the sessions. There are limited opportunities for meaningful interaction or follow-up. Teachers may go home with a new idea, but the design of these sessions makes it unlikely that teachers’ practice will change in any significant ways.

Besides attending these required events, teachers also enroll in courses at local universities. Even when these courses offer intellectual stimulation—something teachers hunger for—their academic content may not connect to teachers’ practice. When university courses offer no opportunity for classroom application, teachers have trouble seeing how continuing education contributes to the improvement of teaching.

Geared to traditional modes of teaching and learning, conventional approaches to staff development and continuing professional education do not fit with the learning requirements of ambitious reforms and standards. They offer teachers a set of disconnected and decontextualized experiences. They do not help teachers bring new knowledge to bear on practice or generate new knowledge in practice.

A NEW “PARADIGM” OF PROFESSIONAL DEVELOPMENT

Dissatisfaction with conventional approaches and the realization that teacher learning is central to any serious efforts to redefine teaching, professionalize teachers, and transform schools have led to new images and forms of professional development. Research syntheses identify key characteristics (Darling-Hammond & McLaughlin, 1995; Hawley and Valli, 1999; Little, 1993; McDiarmid, 1994). Professional organizations and advocacy groups echo the same themes (e.g., Abdal-Haqq, 1995; National Staff Development Council, 1994). Based on a combination of research and rhetoric, various researchers argue that a consensus is emerging about the kinds of professional development opportunities teachers need to teach in new ways and to substantially improve the learning opportunities of all students.

In place of superficial, episodic sessions, teachers need sustained and substantive learning opportunities. Instead of discrete, external events provided for teachers, professional development should be built into the ongoing work of teaching and relate to teachers' questions and concerns. Although teachers need access to knowledgeable sources outside their immediate circle, professional development should also tap local expertise and the collective wisdom that thoughtful teachers can generate by working together.

Discussions of new approaches to professional development cite a wide variety of formats, processes, and organizational arrangements. Professional development takes place in district-sponsored action research projects, grass roots teacher study groups, and school improvement initiatives. It occurs through curriculum development, peer observation and critique, and student assessment events. Creative use of time and flexible scheduling provide opportunities for teachers to work together during the school day. In some places, money is used to subsidize teachers' participation in workshops, conferences, and summer institutes (Little, 1999). There is a place for learning opportunities both inside and outside schools and some evidence that the latter serves as a catalyst for the former (Lieberman & Grolnick, 1996).

Looking at this array of possibilities, we need to remember that forms and structures do not guarantee consequential teacher learning. As Thompson and Zeuli (1999) put it, "Inquiry groups in name can turn out to be emotional support groups in practice, valuable to the moral and mental health of participants, but unlikely to effect real changes in their beliefs or knowledge" (p. 353).

As I analyze the current discourse on professional development in light of the central tasks of early professional development, three themes stand out. Professional development takes place through serious, ongoing conversation. The conversation occurs in communities of practice. It focuses on the particulars of teaching, learning, subject matter, and students. By engaging in professional discourse with like-minded colleagues grounded in the content and tasks of teaching and learning, teachers can deepen knowledge of subject matter and curriculum, refine their instructional repertoire, hone their inquiry skills, and become critical colleagues.

Serious Talk as a Medium of Professional Development

In conventional forms of inservice training and staff development, outside experts do most of the talking and teachers do the listening. In "new" approaches to professional development, teachers do the talking, thinking, and learning. Talk is the central vehicle for sharing and analyzing ideas, values, and practices. Through critical and thoughtful conversations, teachers develop and refine ways to study teaching and learning.

The kind of conversation that promotes teacher learning differs from usual modes of teacher talk which feature personal anecdotes and opinions and are governed by norms of politeness and consensus. Professional discourse involves rich descriptions of practice, attention to evidence, examination of alternative interpretations, and possibilities. As teachers learn to talk about teaching in specific and disciplined ways and to ask hard questions of themselves and others, they create new understandings and build a new professional culture. Over time, they develop a stronger sense of themselves as practical intellectuals, contributing members of the profession, and participants in the improvement of teaching and learning (Ball and Cohen, 1999; Stein, Silver, and Smith, 1994).

Professional Communities of Practice

Teachers do their work out of the sight of other adults. Current school structures provide few opportunities for teachers to confer with fellow teachers about their work. Regular opportunities for substantive talk with like-minded colleagues help teachers overcome their isolation and build communities of practice.

In order to teach in new and challenging ways, teachers need to rethink their pedagogy, their conceptions of subject matter, and their role in curriculum development. Many reformers agree that this intellectual work can best be accomplished when teachers work together over time, conducting inquiries centered in their practice. In a national study of secondary schools, McLaughlin (1993) found that every teacher engaged in the challenging pedagogy of “teaching for understanding” in which students and teachers construct knowledge together, belonged to a strong, collegial group.

Whether they draw members from the same school or from different schools, groups of “teachers helping teachers” offer many benefits. Based on accounts of five diverse teacher groups oriented around the challenges of reform, Helen Featherstone (1996) identifies the following benefits:

They address particular problems of practice, they contribute to the professional development of members; they provide social, emotional and practical support; they nurture the development of professional identities; they craft a collective stance on issues related to teaching. (p. 2)

What distinguishes professional learning communities from support groups, where teachers mainly share ideas and offer encouragement, is their critical stance and commitment to inquiry. Exercising what Lord (1994) calls “the traits of critical collegueship,” teachers ask probing questions, invite colleagues to observe, and review their teaching and their students’ learning and hold out ideas for discussion and debate. Among critical colleagues, disagreements

are viewed as opportunities to consider different perspectives and clarify beliefs, not something to be avoided (Ball and Cohen, 1999).

Besides the support of local colleagues, teachers need access to a wider community of discourse. School/university partnerships, subject matter organizations, and networks of various kinds can expand the community of educators and resources that inform and support teachers in their work (Lieberman and Grolnick, 1996).

Grounded in the Particulars of Teaching and Learning

In new approaches to professional development, the specifics of teaching and learning provide a grounding for inquiry-oriented conversation and classroom experimentation. Opportunities for teacher learning are situated in the tasks of teaching—planning, enacting instruction, assessing student understanding, reflecting on teaching—and in samples of student work. When teachers undertake these tasks together and study these materials, they clarify their goals and beliefs, gain new knowledge, and learn from the ideas and experience of others.

Designing curriculum together gives teachers an opportunity to examine their purposes and articulate the bases for decisions about what and how to teach. Suppose teachers also design a way to assess students understanding and undertake an investigation of what students actually learn. The process of interviewing students or looking at samples of their work could surface different interpretations of students' understanding and different ideas about what counts as evidence. Talking through these differences might lead teachers to reexamine their standards or rethink their pedagogy in light of the presence or absence of evidence. It could easily raise new questions for further inquiry into student thinking and learning.

Similar cycles of inquiry could grow out of joint efforts to work on some challenging new aspect of teaching such as leading Socratic discussions or orchestrating problem-based lessons in mathematics built around student reasoning and the sharing of different solutions. Teachers could learn about pedagogical moves by analyzing classroom videotapes and experiencing such teaching as learners. Once they began to experiment in their own classrooms, they could observe each other or videotape their efforts. This would allow for a more focused discussion of specific approaches and their effects on students. As teachers worked through problems and questions that arose in the course of their teaching, they would refine their performance capabilities and deepen their conceptual understanding.

Situating professional development in records and artifacts of teaching such as classroom videotapes, curricular materials, or samples of student work also provides a common referent for discussion. Instead of relying on vague reports and unsupported claims, teachers can support their claims

with evidence and compare their interpretations with those of their colleagues. Basing professional discussions in records of practice helps teachers develop a more descriptive and discriminating language for talking about teaching. Studying such records together helps them build usable knowledge about subject matter, students, teaching, and learning (Ball and Cohen, 1999; Lampert and Ball, 1998).

SOME PROMISING EXAMPLES

To show how these themes come together in practice, I offer three quite different examples of professional development. In the first, teachers use a specific format to shape an “oral inquiry” that builds on the multiple perspectives of participants. In the second, English and History teachers make discoveries about the different ways that they read texts and respond to students’ interpretations. In the third example, teachers experience a new kind of mathematics learning which provokes them to reassess their mathematical knowledge and rethink their mathematics instruction. All three have been the focus of study by researchers interested in how transformative professional development works.

Descriptive Review and Other Protocols

Around the country some reform-minded educators have been developing and using various formats or protocols to structure conversations among teachers (Allen, 1998). One of the earliest and most influential of these protocols is the Descriptive Review. Developed by Pat Carini (1986) and her colleagues at the Prospect School in Vermont, the Descriptive Review brings teachers together to talk about particular students they find difficult to reach or teach. The goal is not to change the child, but to help the teacher see the child in a new light and use the child’s interests to support his or her learning.

A chairperson guides the group through a series of descriptions which begin with the presenting teacher describing the child. The initial description is framed around a set of broad headings (physical presence and gesture, disposition, relationships with children and adults, interests and activities, formal learning) which insure that the teacher will see more about his or her student than the problematic behavior or learning difficulty which led the teacher to request a review in the first place. After the chairperson summarizes themes in the description and participants ask clarifying questions, the group returns to the presenting teacher’s guiding question and offers recommendations.

The structure of the Descriptive Review not only organizes talk, it promotes certain kinds of thinking. Reading accounts of Descriptive Reviews, one sees how careful and respectful efforts at description lead teachers to new ways

of looking at children and new ideas about how to support their learning. Teachers who regularly participate in Descriptive Reviews agree that studying one child provides insights into other children (Featherstone, 1998a; 1998b).

“Community of Learners” Project

To engage teachers in conversations about subject matter, teaching, and learning and to learn about the role of intellectual community in teacher development, Pam Grossman and Sam Wineburg from the University of Washington started a book club with English and History teachers in an urban Seattle high school. The group, which consisted of experienced teachers as well as some beginning teachers and special educators, met monthly to read and discuss works of fiction and history. Monthly meetings were supplemented by after-school meetings every other week and by a 5-day retreat during the summer. The group read widely, using their discussions to create a community of teacher-learners who would eventually design an interdisciplinary humanities curriculum.

Central to the project was the belief that before teachers can create interdisciplinary curriculum they must understand the disciplines they plan to integrate. Confronting their differing reactions toward and interpretations of texts pushed teachers to articulate and reflect on their assumptions and ways of knowing. Over time they came to realize that History and English teachers read differently, that they pay attention to different kinds of evidence, and that they react differently when students make personal connections to texts. Understanding literary characters by identifying with them may be acceptable in English class, but assuming that historic figures share contemporary values and worldviews is problematic in studying history (Wineburg, 1999).

According to the researchers who both studied and participated in the process, teachers came to notice and value these substantive differences:

The act of surfacing and naming assumptions created the conditions for self-awareness and intersubjectivity. We don’t necessarily agree any more than we did, but our disagreements are richer and more productive. . . . [O]ur discussions of different ways of reading are now understood as reasoned and legitimate differences from which we can all learn. (Wineburg & Grossman, 1998)

The group offered intellectual nourishment and renewal to veteran and novice teachers alike, a rare commodity in most urban high schools. Students saw their teachers participating in the same activities that occupy so much classroom time—reading and discussing text. Teachers also reported trying to create similar discussions in class where they modeled their own thinking for students and listened for differences in students’ interpretations (Wineburg & Grossman, 1998). By cultivating intellectual community

among teachers, the project enriched the learning possibilities for students (Grossman, Wineburg, & Woolworth, 2000).

Summer Math for Teachers

Summer Math for Teachers rests on a “constructivist” view of learning which holds that individuals must construct their own understanding of mathematics principles and concepts. During an intense, 2-week summer institute, the staff engages teachers in activities that help them take a new look at the learning and understanding of mathematics. In groups of three or four, teachers work on nonroutine problems, exploring mathematical ideas and devising ways to represent their solutions. In small groups and whole group sessions, staff members ask probing questions and invite teachers to take issue with each other.

Teachers also interview students and observe videotapes of students attempting to solve some of the same problems teachers struggled with. As they probe students’ thinking, teachers begin to wonder whether students really understand even if they have the correct answer. Toward the end of the institute, teachers teach a lesson based on what they learned from interviewing a student about a mathematical idea. All these experiences unsettle teachers as they confront the limits of their mathematical knowledge and begin to question their teaching and their students’ learning. At the same time, they experience the power of learning to think through and solve problems with peers and on their own.

During the school year, a staff member visits each teacher’s classroom once a week to observe, interview students, and assist teachers as they experiment with new instructional strategies based on the learning principles they encountered in the summer. According to Schifter and Fosnot (1993), significant changes in teachers’ practice take anywhere from 6 months to 3 years. Once teachers have new instructional routines in place, they begin to focus on student thinking as the basis for planning and interactive decisions. At that point, they are ready to rethink their curriculum. The staff has found that gaining the deeper understanding necessary for insights into student thinking poses the most difficult challenge for teachers.

These brief descriptions of rich opportunities for teacher learning help us see that consequential professional development can occur in different places, times, and formats, with teachers from the same school and teachers from different schools. The important ingredients have less to do with structural features and more to do with guiding purposes and ideas, the pedagogy of the leader, norms of discourse that favor discovery, and connections to teachers’ context, content, and students. It should not surprise us that powerful learning opportunities for experienced teachers,

which often engender productive disequilibrium, have much in common with powerful learning opportunities for preservice and beginning teachers.

SUMMARY AND CONCLUSIONS

The argument has come full circle. Learning to teach, especially the kind of teaching reflected in ambitious standards for students and teachers, is a complex, lengthy undertaking. It requires coherent and connected learning opportunities that link initial preparation to new teacher induction and new teacher induction to continuing professional development. Creating a curriculum for learning to teach over time, anchored in a vision of reform-minded teaching, depends on the contributions of universities, schools, and unions working as partners at each stage along the continuum.

LEARNING TO TEACH OVER TIME

Teachers need to know about many things, including subject matter, learning, students, curriculum, and pedagogy. At the same time, knowledge for teaching cannot remain in separate domains if it is going to be usable in practice. An important part of learning to teach involves transforming different kinds of knowledge into a flexible, evolving set of commitments, understandings, and skills.

Some knowledge can best be gained at the university, but much of what teachers need to know can only be learned in the context of practice. This does not mean that good professional education and development only take place “in” schools and classrooms. It does mean that a powerful curriculum for learning to teach has to be oriented around the intellectual and practical tasks of teaching and the contexts of teachers’ work.

Looking at the central tasks of learning to teach over time, we see important threads of continuity related to subject matter knowledge, inquiry, and repertoire development. The use of terms like “deepening,” “refining,” and “extending” to frame these tasks implies that learning to teach involves continuing growth and development in core aspects of teaching. At the same time, each phase in the continuum has a special agenda.

Preservice educators must start the process of transforming common-sense ideas about teaching and personal experiences of schooling into professional commitments and lay a strong foundation in subject matter knowledge for teaching. Those responsible for teacher induction must help new teachers construct a professional identity and practice consistent with their vision of good teaching yet responsive to the realities of schools and classrooms. Those who work in professional development can concentrate on repertoire development with not-so-new teachers, helping them gain the flexibility and depth of understanding that high quality teaching entails.

Of course, a coherent and connected professional curriculum also enables teachers to revisit subjects they have already studied through the lens of their ongoing experience.

If teachers are going to participate in building a new professional culture, they must be introduced early on to the skills of inquiry and given many opportunities to develop the habits of critical collegiality. They must be inducted into communities of practice where they can learn with and from reform-minded teachers working to improve the education and life chances of all students. We can only prepare teachers for schools as they should be in schools that are moving toward a shared vision of powerful teaching and learning.

THE LACK OF CONNECTIVE TISSUE

The problems of preservice preparation, induction, and professional development have been documented. The charge of fragmentation and conceptual impoverishment applies across the board. There is no connective tissue holding things together within or across the different phases of learning to teach.

The typical preservice program is a collection of unrelated courses and field experiences. Most induction programs have no curriculum, and mentoring is a highly individualistic process. Professional development consists of discrete and disconnected events. Nor do we have anything that resembles a coordinated system. Universities regard preservice preparation as their purview. Schools take responsibility for new teacher induction. Professional development is everybody's and nobody's responsibility.

BUILDING THE SYSTEM

The need for a continuum of serious and sustained professional learning opportunities for teachers is clear. The task of building such a system is daunting. Yet there has never been a better time to tackle the problem. An infrastructure of standards for teacher development has emerged at the national level and the idea of a professional development continuum has captured the attention of reformers, educational leaders, and policy makers at all levels. Promising programs and practices exist at each stage in the continuum, and their effectiveness can be strengthened by supplying the connective tissue.

The outlines of a professional learning continuum have been drawn by three national organizations. The National Council for Accreditation of Teacher Education (NCATE, 1997), the Interstate New Teacher Assessment and Support Consortium (INTASC, 1992) and the National Board for Professional Teaching Standards (NBPTS, 1989) have developed compatible standards for the accreditation of preservice programs, the licensing of beginning teachers, and the certification of accomplished practitioners. Treated as living documents

to be interpreted and discussed, not as the final word on what teachers need to know and be able to do, these standards can help local groups of educators construct a shared vision to guide their work.

Finally, building a professional learning continuum depends on partnerships of schools, unions, and universities. Each has a critical role to play and none can do the job alone. Some school/university partnerships have reshaped the preservice curriculum and created school communities where teacher candidates can learn the complex, messy, and uncertain business of reforming teaching with and from more experienced colleagues. How could that work be extended through the induction years, and how could induction become part of a larger vision and plan for professional development? Once we recognize that induction is a form of professional development, this makes good sense. Unions and schools must also work together around issues like appropriate assignments for new teachers, release time for mentor teachers, and other roles for teacher leaders at all stages in the continuum.

Preparing, inducting, and developing teachers who are deeply concerned about students, well grounded in their subjects, and excited about learning is critical to the improvement of K–12 education. We know about the projected need for 2,000,000 teachers in the next decade. Now is the time for groups of school and university educators to turn the idea of a professional learning continuum into a reality.

CENTRAL TASKS OF LEARNING TO TEACH

Preservice	Induction	Continuing Professional Development
1. Examine beliefs critically in relation to vision of good teaching	1. Learn the context—students, curriculum, school community	1. Extend and deepen subject matter knowledge for teaching
2. Develop subject matter knowledge for teaching	2. Design responsive instructional program	2. Extend and refine repertoire in curriculum, instruction, and assessment
3. Develop an understanding of learners, learning, and issues of diversity	3. Create a classroom learning community	3. Strengthen skills and dispositions to study and improve teaching
4. Develop a beginning repertoire	4. Enact a beginning repertoire	4. Expand responsibilities and develop leadership skills
5. Develop the tools and dispositions to study teaching	5. Develop a professional identity	

This paper was commissioned by the Strengthening and Sustaining Teaching Project (SST) which is coordinated by Bank Street College, the National Commission on Teaching and America's Future, the Teacher Union Reform Network and the National Network for Educational Renewal. The author wishes to thank Patricia Wasley for her thoughtful comments on an earlier draft, Sharon Dorsey for gathering materials and offering encouragement, Patricia Norman for helping with references and being a sounding board for ideas, and Jennifer Rosenberger for putting together the final manuscript. Funding for this paper was generously supported by the Philip Morris Corporation. The opinions expressed here are the author's.

Notes

1 Various labels have been attached to this kind of reform-minded teaching, including "teaching for understanding" (Cohen, McLaughlin, & Talbert, 1993; Holmes Group, 1990), "authentic pedagogy" (Newman & Associates, 1996), "adventurous teaching" (Cohen, 1988), "constructivist pedagogy" (Fosnot, 1996) and, more recently, "standard-based teaching" (National Commission on Teaching and America's Future, 1996).

2 Sources include recommendations from the Association of Teacher Educators (Brooks, 1987; Odell & Huling, 2000), findings from a study of clinical teacher education conducted by the Center for Research on Teacher Education at the University of Texas at Austin (Griffin, 1986), recommendations from a study of urban induction programs by Recruiting New Teachers (Fideler & Haselkorn, 1999), and the National Commission on Teaching and America's Future (1996), and Standards of Quality and Effectiveness for California's Beginning Teacher Support and Assessment Program (BTSA, 1997).

References

- Abdal-Haqq, I. (1995). *Making Time for Teacher Professional Development* (Digest #95-4). Washington, DC: ERIC Clearinghouse on Teaching and Teacher Education.
- Allen, D. (Ed.). (1998). *Assessing Student Learning: From Grading to Understanding*. New York: Teachers College Press.
- Ball, D. L. (1988). *Unlearning to Teach Mathematics*. (Issue Paper 88-1). East Lansing, MI: National Center for Research on Teacher Learning, Michigan State University.
- Ball, D. L., & Cohen, D. K. (1999). Developing practice, developing practitioners: Toward a practice-based theory of professional education. In G. Sykes & L. Darling-Hammond (Eds.), *Teaching as the Learning Profession: Handbook of Policy and Practice* (pp. 3-32). San Francisco: Jossey-Bass.
- Ball, D. L., & McDiarmid, G. W. (1990). The subject matter preparation of teachers. In W. R. Houston (Ed.), *Handbook of Research on Teacher Education* (pp. 437-449). New York: Macmillan.
- Barnes, H. (1987). The conceptual basis for thematic teacher education programs. *Journal of Teacher Education*, 36 (6), 2-8.
- Bartell, C. (1995). Shaping teacher induction policy in California. *Teacher Education Quarterly*, 22 (4), 27-43.
- Beginning Teacher Support and Assessment (BTSA). (1997). *California standards of quality and effectiveness for beginning teacher support and assessment: A description of professional induction for beginning teachers*. Sacramento, CA: California Commission on Teacher Credentialing.
- Berliner, D. (1986). In pursuit of the expert pedagogue. *Educational Researcher*, 15 (7), 5-13.
- Borko, H., & Putnam, R. T. (1996). Learning to teach. In D. Berliner & R. Calfee (Eds.), *Handbook of educational psychology* (pp. 673-708). New York: Simon & Schuster Macmillan.
- Brooks, D. M. (Ed.). (1987). *Teacher induction: A new beginning*. Reston, VA: National Commission on the Teacher Induction Process.

- Bullough, R. (1989). *First year teacher: A case study*. New York: Teachers College Press.
- Bullough, R., & Knowles, J. (1991). Teaching and nurturing: Changing conceptions of self as teacher in a case study of becoming a teacher. *Qualitative Studies in Education* 4 (2), 121-140.
- Bush, R. N. (1983). *The beginning years of teaching: A focus for collaboration in teacher education*. Paper presented to the World Assembly of the International Council on Education for Teachers. Washington, D.C.
- Calderhead, J., & Robson, M. (1991). Images of teaching: Student teachers' early conceptions of classroom practice. *Teaching and Teacher Education*, 7 (1), 1-8.
- Carini, P. (1986). Building from children's strengths. *Journal of Education*, 168 (3), 13-24.
- Cochran-Smith, M. (1991). Learning to teach against the grain. *Harvard Educational Review*, 61(3), 279-310.
- Cohen, D. (1988). *Teaching practice*. (Issue Paper 88-3). East Lansing, MI: Michigan State University, National Center for Research on Teacher Education.
- Cohen, D. K., McLaughlin, M., & Talbert, J. (1993). *Teaching for understanding: Challenges for practice, research and policy*. San Francisco: Jossey Bass.
- Conant, J. B. (1963). *The education of American teachers*. New York: McGraw Hill.
- Connecticut State Department of Education. (1997). *A guide to the BEST program for beginning teachers and mentors*. Hartford, CT: Author.
- Dalton, S., & Moir, E. (1996). Text and context for professional development of new bilingual teachers. In M. McLaughlin & I. Oberman (Eds.), *Teacher learning: New policies, new practices* (pp. 126-133). New York: Teachers College Press.
- Darling-Hammond, L., & MacDonald, M. (2000). Where there is learning there is hope: The Preparation of teachers at the Bank Street College of Education. In L. Darling-Hammond (Ed.), *Studies of excellence in teacher education; Preparation at the graduate level* (pp. 1-95). Washington, DC: National Commission on Teaching and America's Future, American Association for Colleges of Teacher Education.
- Darling-Hammond, L., & McLaughlin, M. W. (1995). Policies that support professional development in an era of reform. *Phi Delta Kappan* 76 (8), 597-604.
- Dewey, J. (1904/1964). The relation of theory p in education. In R. Archambault (Ed.), *John Dewey on education: Selected writings*. Chicago: University of Chicago Press.
- Dewey, J. (1938). *Experience and education*. New York: Simon & Schuster.
- Featherstone, H. (1993). Learning from the first years of classroom teaching: The journey in, the journey out. *Teachers College Record*, 95 (1), 93-112.
- Featherstone, H. (1996). Teachers helping teachers. *Changing Minds*. Bulletin 12.
- Featherstone, H. (1998a). Studying children: The Philadelphia Teachers' Learning Cooperative. In D. Allen (Ed.), *Assessing student learning: From grading to understanding*. New York: Teachers College Press.
- Featherstone, H. (1998b). Teachers looking closely at students and their work. *Changing Minds*. Bulletin 13. East Lansing: Michigan State University.
- Feiman-Nemser, S. (1998a). Linking mentoring and teacher learning. *Velon*, 3 (June/July), 5-13.
- Feiman-Nemser, S. (1998b). Teachers as teacher educators. *European Journal of Teacher Education*, 21 (1), 63-74.
- Feiman-Nemser, S., & Parker, M. (1993). Mentoring in context: A comparison of two U.S. programs for beginning teachers. *International Journal of Educational Research*, 19 (8), 699-718.
- Fideler, E., & Haselkorn, D. (1999). *Learning the ropes: Urban teacher induction practices in the United States*. Belmont, MA: Recruiting New Teachers, Inc.
- Fosnot, C. (Ed.). (1996). *Constructivism: Theory, perspectives and practice*. New York: Teachers College Press.

- Fullan, M., Galluzzo, G., Morris, P., & Watson, N. (1998). *The rise and stall of teacher education reform*. Washington, D.C.: American Association of Colleges of Teacher Education.
- Fuller, F. (1969). Concerns of teachers: A developmental conceptualization. *American Educational Research Journal*, 6 (2), 171-179.
- Gold, Y. (1996). Beginning teacher support: Attrition, mentoring and induction. In J. Sikula (Ed.), *Handbook of research on teacher education*, 2nd ed. (pp. 548-594). New York: Macmillan.
- Goodlad, J. (1994). *Educational renewal: Better teachers, better schools*. San Francisco: Jossey-Bass.
- Griffin, G. A. (1986). Clinical teacher education. In J. V. Hoffman & S. A. Edwards (Eds.), *Reality and reform in clinical teacher education* (pp. 1-23). New York: Random House.
- Grossman, P. (1990). *The making of a teacher*. New York: Teachers College Press.
- Grossman, P., Wineburg, S., & Woolworth, S. (2000). *In pursuit of teacher community*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, April 2000.
- Hawley, W. D., & Valli, L. (1999). The essentials of effective professional development: A new consensus. In L. Darling-Hammond & G. Sykes (Eds.), *Teaching as the Learning Profession: Handbook of Policy and Practice* (pp. 127-150). San Francisco: Jossey-Bass.
- Holmes Group. (1990). *Tomorrow's schools: A report of the Holmes Group*. East Lansing, MI: Holmes Group.
- Howey, K. R., & Zimpher, N. L. (1989). *Profiles of preservice teacher education: Inquiry into the nature of programs*. Albany, NY: State University of New York Press.
- Huberman, M. (1989). The professional life cycle of teachers. *Teachers College Record*, 91 (1), 31-57.
- Huling-Austin, L. (1990). Teacher induction programs and internships. In R. W. Houston (Ed.), *Handbook of research on teacher education* (pp. 535-548). New York: Macmillan.
- Interstate New Teacher Assessment and Support Consortium (INTASC). (1992). *Model standards for beginning teacher licensing and development: A resource for state dialogue*. Washington, DC: Interstate New Teacher Assessment and Support Consortium.
- Kagan, D. M. (1990). Professional growth among preservice and beginning teachers. *Review of Educational Research*, 62 (2), 129-169.
- Lacey, Colin (1977). *The socialization of teachers*. London: Methuen.
- Ladsen-Billings, G. (1999). Preparing teachers for diversity: Historical perspectives, current trends, and future directions. In L. Darling-Hammond & G. Sykes (Eds.), *Teaching as the learning profession: Handbook of policy and practice* (pp. 86-123). San Francisco: Jossey-Bass.
- Lampert, M., & Ball, D. L. (1998). *Teaching, multimedia, and mathematics: Investigations of real practice*. New York: Teachers College Press.
- Lieberman, A. (1995). Practices that support teacher development: Transforming conceptions of professional learning. *Phi Delta Kappan*, 76 (8), 591-96.
- Lieberman, A., & Grolnick, M. (1996). Networks and reform in American education. *Teachers College Record*, 98 (1), 7-45.
- Little, J. W. (1990). The "mentor" phenomenon and the social organization of teaching. In C. Cazden (Ed.), *Review of research in education*, Vol. 16 (pp. 297-351). Washington, DC: American Educational Research Association.
- Little, J. W. (1993). Teachers' professional development in a climate of educational reform. *Educational Evaluation and Policy Analysis*, 15 (2), 129-151.
- Little, J. W. (1999). Organizing schools for teacher learning. In L. Darling-Hammond & G. Sykes (Eds.), *Teaching as the learning profession: Handbook of policy and practice* (pp. 233-262). San Francisco: Jossey-Bass.
- Lord, B. (1994). Teachers' professional development: Critical collegueship and the role of professional communities. In N. Cobb (Ed.), *The future of education: Perspectives on national standards in education* (pp. 175-204). New York: College Entrance Examination Board.
- Lortie, D. (1975). *Schoolteacher: A sociological study*. Chicago: University of Chicago Press.

- McDiarmid, G. W. (1994). *Realizing new learnings for all students: A framework for professional development of Kentucky Teachers*. East Lansing, MI: National Center for Research on Teacher Learning.
- McLaughlin, M. (1993). What matters most in teachers' workplace context? In J. Little & M. McLaughlin (Eds.), *Teachers' work: Individuals, colleagues, and contexts* (pp. 79–103). New York: Teachers College Press.
- Miller, L., & Silvernail, D. (2000). Learning to become a teacher: The Wheelock Way. In L. Darling-Hammond (Ed.), *Studies of excellence in teacher education: Preparation at the graduate level*. Washington, DC: National Commission on Teaching and America's Future, American Association for Colleges of Teacher Education.
- Moir, E., Gless, J., & Barron W. (1999). A support program with heart: The Santa Cruz project. In M. Scherer (Ed.), *A better beginning: Supporting and mentoring new teachers* (pp. 106–115). Alexandria, VA: ASCD.
- National Board for Professional Teaching Standards (NBPTS). (1989). *Toward high and rigorous standards for the teaching profession*. Detroit, MI: Author.
- National Center for Research on Teacher Learning. (1991). *Findings from the teacher education and learning to teach study: Final report*. (SR 6–91). East Lansing: National Center for Research on Teacher Learning, Michigan State University.
- National Commission on Teaching and America's Future. (1996). *What matters most: Teaching for America's future*. New York: Author.
- National Council for the Accreditation of Teacher Education. (1997). *Standards, procedures and policies for the accreditation of professional education units*. Washington, DC: Author.
- National Staff Development Council. (1994). *Standards for professional development*. Oxford, OH: Author.
- Nemser, S. (1983). Learning to teach. In L. Shulman & G. Sykes (Eds.), *Handbook of teaching and policy* (pp. 150–170). White Plains, NY: Longman.
- Newman, F., & Associates. (1996). *Authentic achievement: Restructuring schools for intellectual quality*. San Francisco: Jossey-Bass.
- Odell, S., & Huling, L. (Eds.). (2000). *Quality mentoring for novice teachers*. Washington, DC: Association of Teacher Educators.
- Ryan, K. (1970). *Don't smile until Christmas: Accounts of the first year of teaching*. Chicago: University of Chicago Press.
- Schon, D. (1987). *Education the Reflective Practitioner: Toward a New Design for Teaching and Learning in the Professions*. San Francisco: Jossey-Bass.
- Shifter, D., & Fosnot, C. T. (1993). *Reconstructing mathematics education: Stories of teachers meeting the challenge of reform*. New York: Teachers College Press.
- Shulman, L. (1986). Those who understand: Knowledge growth in teaching. *Educational Researcher* 15 (2), 4–14.
- Smith, B. O. (1980). *A design for a school of pedagogy* (Publication No. E-80–42000). Washington, DC: U.S. Government Printing Office. ERIC document.
- Stein, M. K., Silver, E., & Smith, M. S. (1998). Mathematics reform and teacher development: A community of practice perspective. In J. G. Greeno & S. Goldman (Eds.), *Thinking practices in mathematics and science learning*. Mahwah, NJ: Erlbaum.
- Thomas, G., Wineburg, S., Grossman, P., Myhre, O., & Woolworth, S. (1998). In the company of colleagues: An interim report on the development of a community of teacher learners. *Teaching and Teacher Education*, 14 (1), 21–32.
- Thompson, C. L., & Zeuli, J. S. (1999). The frame and tapestry: Standards-based reform and professional development. In L. Darling-Hammond & G. Sykes (Eds.), *Teaching as the learning profession: Handbook of policy and practice* (pp. 341–375). San Francisco: Jossey-Bass.
- Tom, A. (1997). *Redesigning teacher education*. New York: State University of New York Press.
- Wasley, P., Hampel, R., & Clark. R. (1997). *Kids and school reform*. San Francisco: Jossey-Bass.

- Watts, H. (1980). *Starting out, moving on, running ahead, or how the teachers' center can attend to stages in teachers' development*. (Teachers' Centers Exchange Occasional Paper no. 8). San Francisco: Far West Laboratory for Educational Research and Development.
- Whitford, B., Ruscoe, G., & L. Fickel (2000). Knitting it all together: Collaborative teacher education in Southern Maine. In L. Darling-Hammond (Ed.), *Studies of excellence in teacher education: Preparation at the graduate level* (pp.173–257). Washington, DC: National Commission on Teaching and America's Future, American Association for Colleges of Teacher Education.
- Wilson, S., & Berne, J. (1999). Teacher learning and acquisition of professional knowledge: An examination of research on contemporary professional development. In A. Iran-Nejad & P. D. Pearson (Eds.), *Review of research in education*, Vol. 24 (pp. 173–209). Washington, DC: American Educational Research Association.
- Wineburg, S. (1999). Historical thinking and other unnatural acts. *Phi Delta Kappan*, 80, 448–449.
- Wineburg, S., & Grossman, P. (1998). Creating a community of learners among high school teachers. *Phi Delta Kappan*, 79, 350–353.
- Wilson, S., Shulman, L., & Richert, A. (1987). "150 different ways" of knowing: Representations of knowledge in teaching. In J. Calderhead (Ed.), *Exploring teachers' thinking* (pp. 104–124). London: Cassell.
- Zeichner, K. (2000). Ability-based teacher education: Elementary teacher education at Alverno College. In L. Darling-Hammond (Ed.), *Studies of excellence in teacher education: Preparation in the undergraduate years*. Washington, DC: National Commission on Teaching and America's Future, American Association for Colleges of Teacher Education.
- Zeichner, K., & Hoeft, K. (1996). Teacher socialization for cultural diversity. In J. Sikula (Ed.), *Handbook of research on teacher education*, 2nd ed. (pp. 525–547). New York: Macmillan.

SHARON FEIMAN-NEMSER is a professor of teacher education at Michigan State University. A founder and co-director of an innovative teacher education program, she is currently writing a book about teacher mentoring and is directing a study of new teacher induction programs, policies, and practices.