

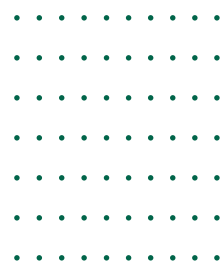


# PROFESSIONAL DEVELOPMENT FOR TEACHERS

## Setting the Stage for Learning from Teaching

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# Professional Development for Teachers: Setting the Stage for Learning from Teaching

## INTRODUCTION

Teaching well is a complex process. It is not, as is commonly believed, primarily a process of talking while learners listen. In this view, based on the image of the classroom in which a teacher lectures and students take notes, teachers need little more than the ability to march through the text and string together comprehensible lectures to do an adequate job. However, research on cognition and learning indicates that this kind of teaching does not help most people learn well. Students learn best when:

- New ideas are connected to what they already know and have experienced.
- They are actively engaged in applying and testing their knowledge using real-world problems.
- Their learning is organized around clear, high goals with lots of practice in striving to reach them.
- They experience coherent, cumulative learning opportunities.
- They can use their own interests and strengths as a springboard for learning.

Consequently, to teach well, teachers cannot simply know the material themselves. Effective teachers must understand how to present critical ideas in powerful ways, systematically organize a useful learning process, and adapt instruction to the different learning styles and backgrounds of their students. Expert teachers need to be alert diagnosticians and flexible planners who teach in reciprocal relationship to their students' learning.

The complexity of learning and teaching well means there is no set curriculum package that we

can determine and then prescribe to create effective learning in every classroom. Instead, we need to provide teachers with a solid foundation, both in subject matter and in pedagogy, and then ensure rich and frequent opportunities for them to continue to learn and grow in their profession. Teachers need to be empowered with greater understanding of the complexity of learning rather than controlled with simplistic formulas and cookie-cutter routines for teaching.

How do we create this cadre of expert teachers – especially in California, where teachers have entered the classroom from many different pathways and where the children they are charged with teaching represent the broadest possible diversity of backgrounds, learning styles and challenges? There is no silver bullet, no single simple reform that will change chalkboard lecturers into inspirational educators. But a critical first step is establishing a context for teaching as a learning profession that is widely recognized and supported by schools, policy makers and the public. This paper seeks to develop that context by highlighting the importance of teacher quality, describing the cumulative nature of teacher education, and discussing what is known about professional development that is effective for developing and transforming practice.

Recent findings support the notion that an effective teacher is one who learns from teaching rather than one who has finished learning how to teach. Thus, this paper frames the job of teacher education and ongoing professional development as developing the capacity of the teacher to inquire reflectively and systematically into the nature of learning and the effects of teaching.

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## TEACHER QUALITY: DOES IT MATTER?

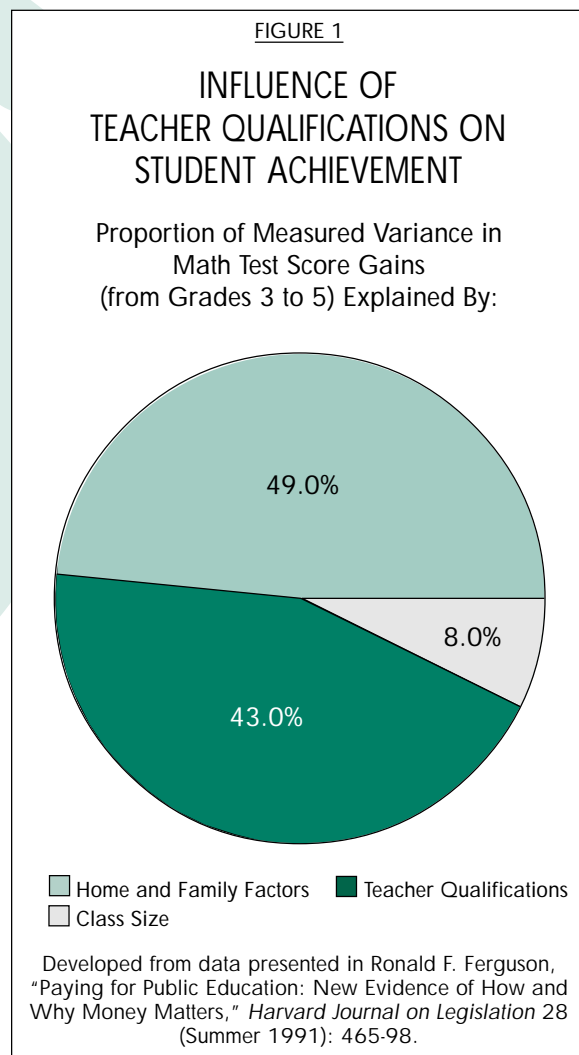
In a perfect world, all children would come to school well-rested, well-fed, emotionally healthy, eager to learn and supported by parents who emphasize the value of education. In the less-than-perfect world that we live in, children arrive at the schoolhouse steps powerfully impacted by the condition of the communities and society they inhabit. Their ability to achieve in school can be greatly affected by parental discord or absence, stressful home or community environments, poverty, health problems, language differences, and many other factors. But study after study has shown that school factors can make as much difference in student achievement as home and family factors, and that the most important school resource in determining student achievement is teacher expertise (National Commission on Teaching and America's Future, 1996; Darling-Hammond, 1997a).

Figure 1 reflects the findings of Ronald Ferguson's study (1991) analyzing test score variations in 900 Texas school districts in the context of teacher quality, as measured by scores on a licensing examination, possession of a master's degree and years of experience. Ferguson found that about 40 percent of the measured variance in student test scores in both math and reading across grades 1 through 11 was accounted for by teacher expertise. As the figure indicates, when combined with small class size in elementary grades, these two factors match and exceed the influence of the external home environment in predicting learning gains.

Similar results have come from a variety of studies, including studies in:

- Alabama (Ferguson and Ladd, 1996), where teacher qualifications and class size outweighed home environment in predicting test score variations among high- and low-scoring districts.
- Tennessee (Sanders and Rivers, 1996), where students who had teachers rated ineffective three years in a row scored significantly lower on achievement tests (a full 50 percentile points) than those who had highly qualified teachers during the same time span.
- New York City (Armour-Thomas et al., 1989), where differences in teacher qualifications accounted for 90 percent of the variation in reading and math scores across demographically similar schools with different levels of achievement.
- California (Fetler, 1999), where lower math test scores were correlated with the percent of math teachers on emergency permits and higher math test scores were linked both to teachers' qualifications and to their years of teaching experience.

Other studies have found that students achieve at higher levels and are less likely to drop out of school when their teachers are certified in their subject matter, have master's degrees or are enrolled in graduate studies (Druva and Anderson, 1983; Hawk, Coble, and Swanson, 1985; NAEP, 1994; Council for School Performance, 1997; Knoblock, 1986; Sanders, Skonie-Hardin, and Phelps, 1994).



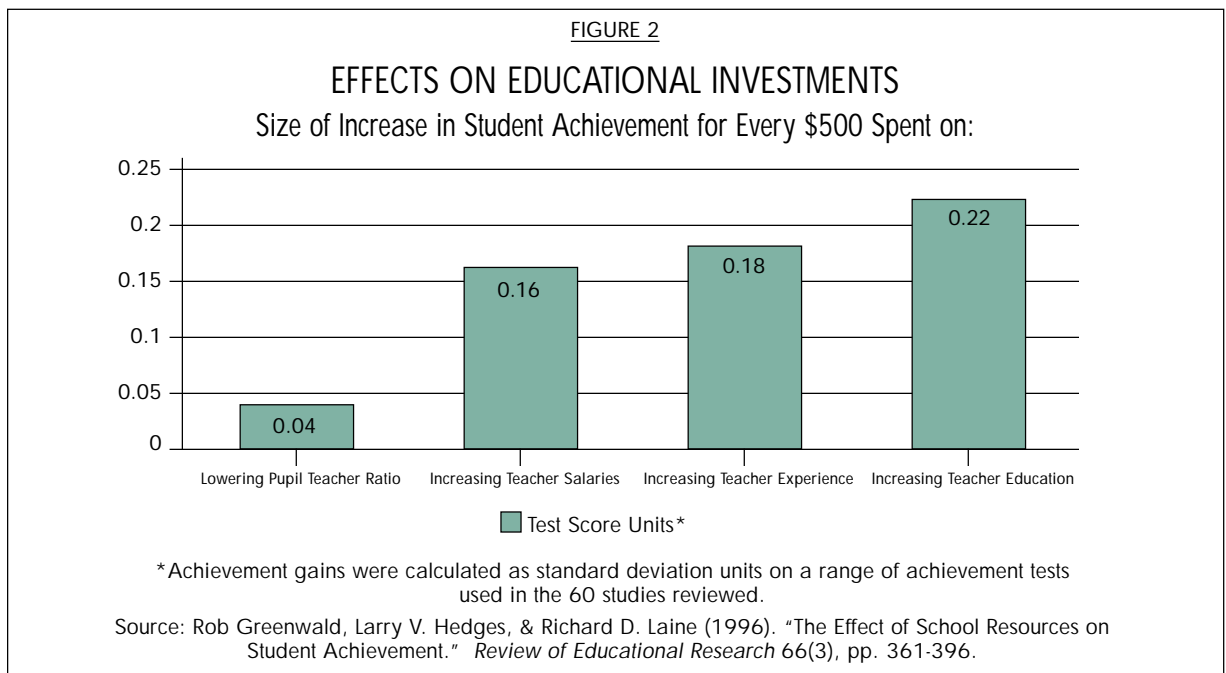
A 1996 review of 60 production function studies arrived at the same conclusion about the importance of teacher quality from a different perspective – namely, the prudent and productive use of resources to increase student learning. Nationally and locally, a political battle for some time has centered on whether *enough* money is spent on education. More recently, the argument has shifted to *how* money should or could be invested to have the greatest impact on student achievement. As Figure 2 shows, the single most productive use of additional education dollars is to increase teacher education if the goal is to improve student learning (Greenwald, Hedges, and Laine, 1996).

years of shortages, especially in its cities, to state-wide surpluses within three years. In the 1990s, the state has posted significant achievement gains despite an increase in linguistic diversity and student poverty rates. Connecticut’s elementary students’ scores now rank number 1 in the nation in reading and mathematics and older students rank among those in the top states. In contrast, states that enacted reforms emphasizing student testing instead of investments in teaching, such as South Carolina and Georgia, saw flat scores and increasing dropout rates during the 1990s. The moral of the story is quite clear: teaching, not testing, is the engine of successful school reform.

Two states in particular have demonstrated that investing in quality teaching pays off in higher student test scores. During the late 1980s, North Carolina and Connecticut coupled major statewide increases in teacher salaries with intensive recruitment efforts and initiatives to improve pre-service teacher education, licensing, beginning teacher mentoring, and ongoing professional development. Since then, North Carolina has posted among the largest student gains of any state in the nation in mathematics and reading (Darling-Hammond and Ball, 1998). Connecticut’s efforts to equalize and increase salaries while raising licensing standards and introducing high quality mentoring for beginning teachers transformed

The conclusion is inescapable: No other intervention can make the difference that a knowledgeable, skilled teacher can make in student achievement. Furthermore, other reforms, including the creation of high standards, rigorous testing and challenging curriculum, depend on skilled teachers for their successful implementation. The next question, then, is how to ensure that teachers have the necessary knowledge and skill – that they know their subject matter, understand the learning process, and have the opportunity to practice their craft in an environment that supports professional growth.

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## TEACHER QUALITY: HOW DO WE GET IT?

Teachers bring to the classroom the sum of a long line of learning experiences. As primary and secondary school students themselves, they are exposed daily to teachers and are firmly imprinted with what those teachers modeled about the practice of teaching. As college students, they learn subject matter and, perhaps, absorb teaching theories and strategies. As beginning teachers, they learn to apply what they've studied to diverse circumstances on their own or with the help of others who are more experienced. As practitioners, they are exposed to different challenges as each new student enters the room, each new district or school practice is put in place, and each new reform wave surges through the education system – challenges they may embrace, work around or ignore. At each juncture, what teachers learn may help them become more effective, or it may merely help them cope – or even undermine their ability to do so.

In California today, there are rich opportunities for teachers to come to the classroom well prepared, enthusiastic and capable. A young student in Los Angeles may enroll in the Teacher Training Magnet at Crenshaw High School, gaining early exposure to topics like child development, adolescent psychology, classroom management and teaching philosophy. The five-year Teacher Core program at California State University, Chico may catch her eye upon high school graduation, offering her a blended curriculum of subject matter and teaching methodology throughout the undergraduate and graduate teacher certification process, as well as coaching and mentoring opportunities in local elementary schools. Or she may pursue a two-year graduate program at the University of California, Los Angeles or the University of California, Berkeley that prepares her to teach in urban areas through an intensive program of coursework and clinical experiences en route to a master's degree.

Perhaps her initial job will be in the New Haven Unified School District, where her first two years in the classroom will be carefully guided and heavily supported by master teachers whose primary job (for which released time is provided them) is to help her succeed. If she makes this district her long-term home, she will find collaborative opportunities with other teachers built into the work week, as well as district recognition and support for a wide variety of professional development experiences, including National Board Certification, as her teaching career matures.

Similar opportunities to those described above can be found around the state. But just as often, teachers come to the classroom through a variety of less supportive paths – some rocky, winding and haphazard. A college student may stumble into an old-style diploma mill teacher education program – whether undergraduate or postgraduate – that has not begun to integrate theory and practice or create a coherent program of relevant studies. He may sit in a crowded lecture hall to learn about teaching theory from someone who has never or only long ago taught in a classroom. In the traditional style of four-year programs across the country, he may find that student teaching is tacked onto the end, a short immersion into a confusing whirl of activity in a classroom that does not resemble the theory he has been taught or the practices he should learn.

Sometimes the path is barely etched in shifting sands. Our college student, not really sure of what he wants to do with his life, may enter teaching with no preparation at all. Unlike many other states that will not hire untrained teachers, California allows the wholesale hiring of teachers on emergency certificates and waivers (30,000 in 1998-99, a steep increase from prior years) – placing teachers in the classroom with little beyond an inclination to want to teach and a promise to work on a credential.<sup>1</sup>

<sup>1</sup> Because California does not enforce its own regulations on hiring, this emergency hiring occurs in some districts that have laid off qualified teachers and bought out the contracts of certified teachers close to retirement, and in others that will not hire more seasoned, certified teachers who apply but cost more money. It also occurs because California has had no reciprocity provisions with other states that have large surpluses of teachers. Thus, California has not had access to the 60,000 teachers annually who do not find jobs in the states where they prepared to teach.



Or he may follow a short-term alternative route, like many internships that offer a summer crash course and require recruits to take full responsibility for a classroom by fall. This causes him to miss the benefits of student teaching and intensive support while learning to teach. It also subjects him to burnout from the combined stress of lack of skills and the need to take classes at night, on weekends and during the summer, usually in piecemeal fashion unconnected to one another and to his work in the classroom.

For those who enter teaching underprepared in districts that provide little mentoring or support, trial and error becomes the only mechanism for surviving the first job. Eventually the days and weeks settle into a enervating pattern: the daily lessons with the children slapped together at the last minute without benefit of informed curriculum planning, the added hours of preparation and grading, and little or no time for new learning, collaboration with other teachers, and reflection on experiences. At best in these situations, teachers are in a race to learn how to teach before their students move on – and it is a race where students often are the losers.

Choosing a solid, integrated, fully supported teacher education and induction process rather than a catch-as-catch-can patchwork of backdoors into teaching may make intuitive sense. But an integrated, well-structured system also is backed by research that compares various approaches to university training and induction support. Research findings confirm:

- The overall value of formal teacher pre-service education. Although traditional teacher education programs differ significantly from one another and some have noticeable shortcomings, as a group they produce teachers who are more highly rated and effective with children than are teachers who enter teaching without training or through quick alternate routes. According to reviews of research over the past 30 years, teacher education matters. (See, for example, Darling-Hammond, 1992; Evertson, Hawley and Zlotnik, 1985; Ashton and Crocker, 1986; Ashton and Crocker, 1987; Greenberg, 1983; Haberman, 1984; Olsen 1985).

- The added value of well-planned five-year programs. Research has found combined undergraduate and graduate programs that include a major in the field to be taught, well-planned professional coursework, and a yearlong student teaching experience in a professional development school associated with the university produce teachers who are not only viewed by colleagues as much more effective, but also much more likely to enter and stay in teaching (Andrew, 1990; Andrew and Schwab, 1995).
- The advantages for first-year teachers of solid pre-service education. A number of studies suggest that the typical problems of beginning teachers are lessened for those who have had adequate preparation (Adams, Hutchinson, and Martray, 1980; Glassberg, 1980; Taylor and Dale, 1971). Teachers who are well prepared are better able to use teaching strategies that respond to students’ needs and learning styles and that encourage higher order learning (Perkes, 1967-68; Hansen, 1988; Skipper and Quantz, 1987).
- The success that accompanies good induction programs. Research shows that beginning teachers who have mentoring support are more likely to stay in the profession, will continue to learn during a critical transition time (during their first year when they are expected to take theories about teaching and learning and turn them into classroom practice), and will be more effective in helping students learn (National Commission on Teaching and America’s Future, 1996). Varying models are emerging in cities across the country, but the typical common element is sustained support by veteran mentors during the early years.
- The shortcomings of quick alternate routes. Recruits from “summer wonder” programs who enter the classroom after a few weeks of training have been found to be dissatisfied with their training and to have greater difficulty planning curriculum, teaching, managing the classroom, and diagnosing students’ learning needs. Evidence shows that they are less able to adapt their instruction to promote

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student learning, and they are more likely to blame students if their teaching is not effective. Principals and colleagues tend to rate them less highly on their instructional skills. Most important, their students learn less, especially in areas like reading, writing, and mathematics (for a review, see NCTAF, 1996).

- The high attrition rate for quick-entry routes, even when accompanied by first-year mentoring. Mirroring findings in other such programs across the country, a California evaluation of Los Angeles' alternative certification recruits found that 20 percent of recruits dropped out before completing training; of those who completed training, 20 percent left during the first two years and another 20 percent of the remainder were deemed not ready for employment by the end of year two (Wright, McKibbin, and Walton, 1987). Another analysis showed that 53 percent of these recruits left teaching within the first six years (Stoddart, 1992), rates similar to those found in alternative routes operating in Houston, Dallas, and elsewhere (Lutz and Hutton, 1987). Across a range of

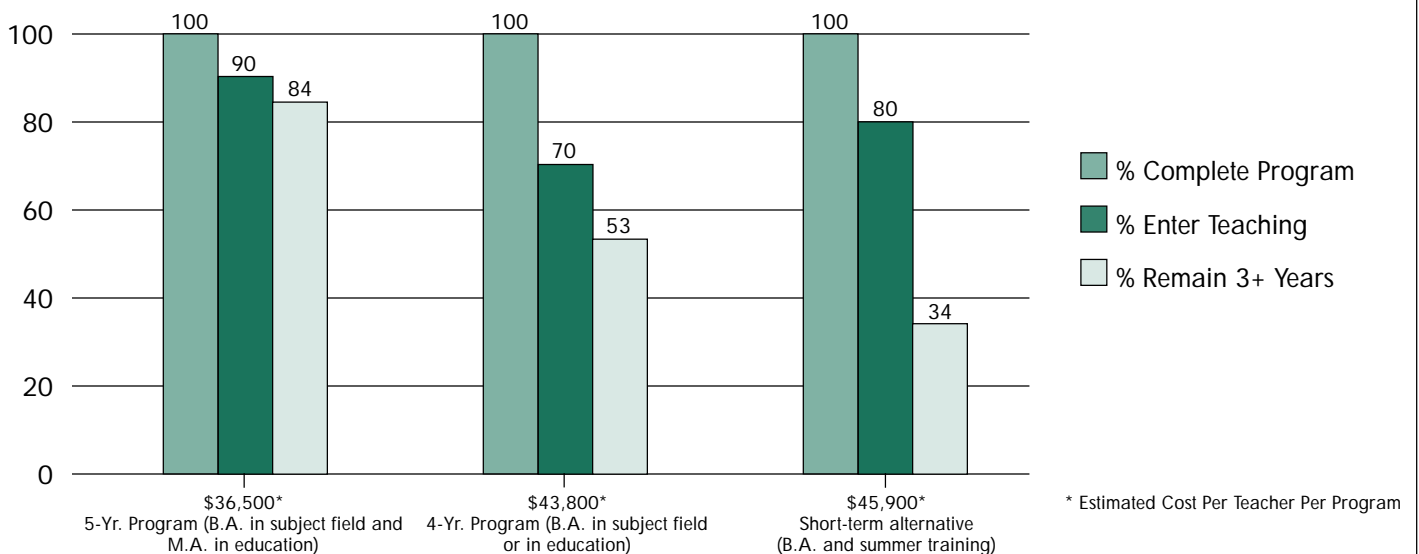
non-traditional programs reviewed by the RAND Corporation, only half of the recruits who had entered teaching planned to make it their career. Among these, candidates admitted through short-term alternative routes were least likely to say they planned to stay in teaching (Darling-Hammond, Hudson, and Kirby, 1989).

An analysis by the National Commission on Teaching and America's Future of the differential retention rates of candidates from different teacher education routes found that it is actually much less expensive to prepare a candidate from a highly successful five-year teacher education program than to produce a revolving door of recruits from ostensibly cheaper but much less effective alternatives that leave recruits floundering. (See Figure 3).

In short, it is fair to say that a great deal of evidence points to the importance of a well-integrated, carefully planned approach to educating teachers. This approach begins with pre-service education, is bolstered by a supportive induction process for beginning teachers, and is made robust by continuing professional development. Its

FIGURE 3

AVERAGE RETENTION RATES FOR DIFFERENT PATHWAYS INTO TEACHING



Source: L. Darling-Hammond. (Based on analyses of retention rates and costs to states, universities, and school districts of teacher preparation, recruitment, induction, and replacement due to attrition.)



foundation is an emerging consensus (expressed in the standards developed by the National Board for Professional Teaching Standards, the Interstate New Teacher Assessment and Support Consortium and others) about what is needed in the way of knowledge, skills and dispositions (Darling-Hammond and Cobb, 1995) to be developed throughout the career. These include:

- Teachers' moral and professional commitment to students, grounded in an understanding of learners, a commitment to equity, and a pledge to continually seek strategies that will produce success for each learner.
- Teachers' understanding of subjects in ways that allow them to make core concepts and modes of inquiry accessible to diverse learners.
- Teachers' understanding of learners and learning in ways that allow them to identify different strengths, intelligences, and approaches to learning, as well as to facilitate development of the whole child.
- Teachers' active involvement in assessing and supporting student learning by evaluating student thinking and performance and adapting teaching to students' prior knowledge, interests, motivations, and learning.
- Teachers' capacities to reflect on their teaching and its consequences for learners, to revise their strategies as needed, and to collaborate with others in creating conditions that support school improvement as well as individual student success.

These are the outcomes teacher development programs should aspire to. Teacher preparation programs that succeed on these dimensions share common elements that are typical of successful professional development programs as well. The National Commission on Teaching and America's Future examined seven programs that prepare teachers who are unusually and consistently successful at teaching diverse learners effectively. The common features of these different programs include:

- **A common, clear vision of good teaching** that is apparent in all coursework and

clinical experiences. Faculty in these programs have hammered out their shared view of what matters for good teaching and have constructed a coherent, connected series of courses and experiences that ensure all of the building blocks for such teaching are present and reinforced.

- **Well-defined standards of practice and performance** that are used to guide and evaluate coursework and clinical work. Along with a common vision of good teaching are explicit standards for what professional teachers should know and be able to do to meet the needs of diverse students and to teach their subject matter in powerful ways. These standards guide decisions about learning experiences, assignments, and ongoing assessment of students' learning and performance, in both the college classroom and the school classroom. Students have many examples of the kind of practice they are trying to develop, and they have many opportunities to get feedback about how they are progressing.

- **A rigorous core curriculum.** These programs have developed a systematic program of study grounded in substantial knowledge of subject matter content, child and adolescent development, learning theory, cognition, motivation, social and cultural contexts, and subject matter pedagogy, taught in the context of practice. Students do not report that their only valuable experience was student teaching. Instead, they report that their courses were intellectually engaging, theoretically well grounded, and practically useful because they were connected to a knowledge base and to student teaching.

- **Extensive use of problem-based methods**, including cases and case studies, teacher research, performance assessments, and portfolio evaluation. Like the strategies used in schools of business, law, architecture, engineering and medicine, these methods help teachers apply general propositions derived from research and theory to real problems of practice, thus supporting their develop-

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ing abilities to reason pedagogically. Learning to think like a teacher requires the combination of multiple kinds and sources of knowledge with a diagnostic eye on both curriculum goals and student needs.

■ **Intensely supervised, extended clinical experiences** that are carefully chosen to support the ideas and practices presented in simultaneous, closely interwoven coursework. In contrast to traditional programs' weak student teaching experience of eight to 12 weeks, these programs offer a full academic year to develop, test, and problem solve more sophisticated forms of practice under the guidance of master teachers who work closely with the university. The practice of teaching has an opportunity to take root and grow strong so that it is not blown over like a thin reed when teachers enter difficult teaching circumstances in their first year.

■ **Strong relationships with reform-minded local schools** that support the development of common knowledge and shared beliefs among school- and university-based faculty. These partnerships support co-reform of both the school and the university teacher education program and create sites for state-of-the-art practice, training, and research.

Research also indicates that supporting teachers during their beginning years is very valuable in helping them put theory into practice and in increasing the rate at which they remain in the profession. In cities like Cincinnati, Columbus, Toledo, Rochester, and Seattle, beginning teachers who receive intensive support from trained mentors in their teaching fields leave their positions at rates of only about 5 to 10 percent in the first years of teaching rather than the 30 to 50 percent rates of attrition that had characterized these cities, like many others, prior to the introduction of these programs (National Commission on Teaching and America's Future, 1996).

Without these supports, learning to teach well is extremely difficult. Many teachers begin their careers in disadvantaged schools where turnover

is highest, are assigned the most educationally needy students whom no one else wants to teach, are given the most demanding teaching loads with the greatest number of extra duties, and receive few curriculum materials and no mentoring. After this hazing, it should not be surprising that many leave and the remaining frequently fail to connect in productive ways with their students, settling for coping rather than teaching well.

This sink-or-swim milieu presumes that teachers know everything they will need for a career – or will learn through workshops mostly on their own, with few structured opportunities to observe and analyze teaching with others. Induction, if it exists, is often just a few days of orientation at the start of the year. Beginning teacher evaluation is primarily for the benefit of the district, weighing and measuring the beginning teacher before tenure is earned. As noted in *Teaching as the Learning Profession*, this is in stark contrast to other professions:

The roles of the resident in medicine, the intern in architecture and the associate in a law firm illustrate the importance other professions place on an extended clinical preparation period that carefully guides novices into growing responsibilities and increasingly more complex practice. In these and other professions, novices continue to hone their knowledge and skills under the watchful eyes of more knowledgeable and experienced practitioners. At the same time, the novices, fresh from their studies, bring the latest research and theoretical perspectives to bear on their practice, where it is shared and tested by novice and veteran practitioners alike (Darling-Hammond, Berry, Haselkorn, and Fideler, 1999).

In some places, induction programs for teachers have matured from a tool that primarily evaluates beginning teachers to a support system that gives them feedback, opportunities for reflection and encouragement to experiment with and modify strategies. These new induction processes feature mentoring, peer observation, coaching, local study groups and networks for specific subject matter areas, teacher academies that provide ongoing

seminars and courses tied to practice, and school-university partnerships that enrich collaborative research and learning opportunities.

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Much is known about what to focus on as new people enter the process of becoming teachers – and across the nation considerable energy is being directed toward recasting the experiences at the pre-service and induction levels. Given the rate at which older teachers are retiring from California schools (at least 20 percent of the workforce is likely to retire in the next 10 years and the rate at which new and transferring teachers are being hired (at least 25,000 annually), it is critically important that the state prepare teachers in high-quality programs that maximize both their competence and their likelihood of staying in the profession. Even high-quality preparation, however, does not complete the process of learning to teach, which is a lifelong endeavor that needs ongoing support. In addition, many teachers came into the system prior to these efforts to improve teacher preparation and did not experience their benefits. Helping all teachers achieve a higher level of expertise and ability is the key challenge of professional development.

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## OPTIMIZING PROFESSIONAL DEVELOPMENT

The first reality that must be acknowledged is that in California today, teachers have come to the classroom by many paths – not all of them adequate for building a strong base of knowledge and skills for teaching. The second is that the challenges of teaching are endless, and meeting students’ needs for skillful teaching and teachers’ needs for answers to new puzzles requires continuous learning throughout teachers’ careers. Professional development, well-defined and carefully targeted, is the most potent weapon for continuing the growth of well-trained teachers and helping others overcome the gaps that may have been left by inadequate pre-service education.

However, not all professional development activities are worthwhile uses of time and funds. What does good professional development look like? It bears little resemblance to the “drive-by” workshops that treat teachers to daylong lectures and handouts – just as good education for students bears little resemblance to decontextualized memorization of information without opportunities to apply it. Teachers learn well just as students do – by studying, doing, and reflecting; by collaborating with other teachers; by looking closely at students and their work; and by sharing what they see. Good settings for teacher learning provide plentiful opportunities for research and inquiry, for trying and testing, for talking about and evaluating the results of learning and teaching. The “rub between theory and practice” (Miller and Silvernail, 1994) occurs most productively when questions arise in the context of real students and real work-in-progress and where research and disciplined inquiry are also at hand. As Gary Fenstermacher (1992) observes:

...it is more important than ever that teachers have the capacity to appraise their actions, evaluate their work, anticipate and control consequences, incorporate new theory and research into practice, and possess the skills and understanding needed to explain their work to other teachers, to students and to their parents... These reflective capacities are not innate to human beings, nor are they acquired quickly. They are not acquired during a planning period sand-

wiched somewhere in between classes, or during evening ‘mini-courses’ after a full day’s work. They are, rather, the outcome of sustained and rigorous study, and of dialogue and exchange with master teacher educators.

Developing this type of knowledge and skill requires that most teachers move far beyond what they themselves experienced as students, and thus that they learn in ways that are more powerful than simply reading and talking about new pedagogical ideas (Ball and Cohen, 1999). Learning to practice in substantially different ways than one has oneself experienced can occur neither through theoretical imaginings alone, nor through unguided experience alone. It requires a much tighter coupling of the two.

Unfortunately, much of today’s professional development focuses on training that sees the teacher as a half-full vessel, with the objective to fill the vessel further. Districts and schools establish objectives based on district or school goals. District-based training usually is general in nature and is delivered en masse to large groups of teachers on a specific day set aside for the purpose. The typical format is a workshop session presented by an “expert” who sets the content and course of activities. Frequently, little or no follow-up and support are provided to enable teachers to practice or incorporate the knowledge and/or skills presented in the workshop into their particular classroom setting.

This training model of professional development is often fragmented, relying on a collection of workshops and/or course offerings, as opposed to a continuous and ongoing program of professional development for teachers (Miller, Lord, and Dorney, 1994). In addition, district policies take precedence over teacher learning guided by investigations into concrete problems of practice. Such staff development does not address teachers’ various expertise and contexts or encourage diverse areas of professional inquiry.

What is needed is to develop the perception and reality of the teaching profession as a lifelong journey of learning rather than a final destination of “knowing” how to teach. Flowing naturally from

this framework come two imperatives: the need to broaden the meaning of and deepen the commitment to professional development and the need to restructure schools to better support continuous professional development.

## BROADENING PROFESSIONAL DEVELOPMENT

While externally driven one-day workshops are still the norm in many districts, new kinds of professional development opportunities are beginning to take hold – and research is documenting their success. Professional development strategies that succeed in improving teaching share several features (Darling-Hammond and McLaughlin, 1995). They tend to be:

- Experiential, engaging teachers in concrete tasks of teaching, assessment, and observation that illuminate the processes of learning and development.
- Grounded in participants’ questions, inquiry, and experimentation as well as profession-wide research.
- Collaborative, involving a sharing of knowledge among educators.
- Connected to and derived from teachers’ work with their students as well as to examinations of subject matter and teaching methods.
- Sustained and intensive, supported by modeling, coaching, and problem solving around specific problems of practice.
- Connected to other aspects of school change.

Highlighted here are examples of approaches that hold promise for professional development that helps teachers develop much more powerful practice:

### 1. Developing professional discourse around problems of practice.

For teachers to teach with their students’ needs in mind, they have to inquire both into students’ thinking and learning and into the effects of their teaching. This view of teaching is most closely related to an inquiry model of staff development

in which teachers themselves formulate the questions about teaching and learning that can best facilitate the growth of their practice. This deviates from some forms of traditional professional development that concentrate on conveying information which may not connect with what an individual teacher is challenged by every day. Instead, some schools and districts are constructing forums in which teaching and learning can be discussed and analyzed, and where serious examination of practice, its outcomes, and its alternatives is possible. This inquiry model of professional development may include such activities as teacher study groups, teacher research, school-based coaching, or teacher networks. Research suggests that this type of professional development is often more meaningful for teachers and has greater impact on teaching practice (Little, 1993; Miller, Lord, and Dorney, 1994).

A good example of this type of professional development is found in New York City’s Community School District #2. Using professional development as the core strategy for improving learning, District #2 offers its teachers a professional development laboratory (PDL) where one teacher can spend three weeks working in the same classroom as an expert resident teacher who uses specific practices. While she is visiting this resident teacher, a skilled substitute works with the teacher’s students, using the same kinds of practices. When the 3-week PDL experience is over, the teacher can return to the resident teacher and to other school-based consultants for expert coaching as she applies the new practices in her classroom. The district also uses teams of instructional consultants to work with groups of teachers within schools to develop particular strategies. Teachers and principals visit and observe one another, develop study groups on topics of current interest, and work together to solve problems of practice. The focus is on sharing, analyzing and improving practices in the context of how they affect learning.

### 2. Content-based professional development.

Much professional development is generic, focusing on topics such as learning styles or classroom management. These approaches can be helpful,

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but recent research indicates that professional development aimed at curriculum reform is particularly effective when grounded in particular content material and in the teaching and learning of specific topics as concrete problems of practice (Cohen and Hill, 1997). The research found that California's intensive "student curriculum workshops" in elementary mathematics caused teachers to change their practices and improved their students' learning. Teachers studied and used specially designed "replacement units" to teach mathematics, discussing them with colleagues and learning from each other's experiences. According to the researchers, these workshops seemed to offer teachers the opportunity to collaborate on learning new content and new strategies for teaching it, grounded in the issues and problems of their work.

Other examples of content-based professional development include the subject-matter collaboratives that California has formed around the state's curriculum framework as well as the National Writing Project. Both use summer institutes and ongoing workshops throughout the year to bring teachers together around specific curriculum topics to share successful strategies, discuss current research, and sharpen practice through reflection, analysis and study.

### 3. Learning from analysis of practice.

The notion that knowledge is learned in coursework and then applied in practice creates a divide between theory and practice and leaves a critical gap: There is no feedback loop to better inform theory and no reinforcement when theory is forgotten in the heat of practice. A positive trend today is the close collaboration of universities and local school districts to link theory with practice by engaging prospective and veteran teachers in studying research and conducting their own inquiries through cases, action research, and the development of structured portfolios about practice. Teachers report that they learn a great deal from analyzing their own and others' practice against standards that reflect accomplished teaching. This process is substantially assisted when teachers develop a portfolio based on teaching artifacts (videotapes, lesson plans, student work) and reflec-

tions on their work. When teachers examine portfolios and talk with one another about this evidence, they discover matters about which they disagree, have different interpretations, or use the same terms to mean different things. They begin to develop shared standards and common language with which to examine and discuss teaching and learning.

The portfolio approach is the cornerstone of National Board certification, as well as teacher induction models supported by the Interstate New Teacher Assessment and Support Consortium (INTASC). Teachers report learning a great deal from developing a portfolio based on teaching artifacts – videotapes, lesson plans, student work, etc. – and then reflecting on their work in the light of professional standards of practice.

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All of the approaches described above shift from old "fill-the-vessel" models of teacher training to a model in which teachers confront research and theory directly, are regularly engaged in evaluating their practice, and use their colleagues for mutual assistance.

A common thread throughout these strategies is that good professional development has a strong internal motivation even when the material or objective is externally imposed. Theory is brought into the school setting; teachers see how what they are learning relates to the classrooms they are in; professionals who work at the same site share and leverage information to form a common base of experience and understanding. The result, when professional development works as it can, is a greater appreciation for what matters and what works, as well as what needs to change to promote student success. But at least one barrier to this internally driven and sustained model of professional development is today's typical school environment.



## RESTRUCTURING SCHOOLS TO SUPPORT PROFESSIONAL DEVELOPMENT

The traditional U.S. perspective is that a teacher is hired to be with students most of the day, with lesson preparation and grading papers the after-hour activities that absorb any extra teacher energy. Weekly staff meetings often deal with administrative announcements rather than teaching and learning concerns. Professional development and teacher collaboration are special, one-at-a-time events planned for and carried out infrequently at best. This organizational structure reflects the beliefs of many about the straightforward nature of teaching, as summed up succinctly by Judith Warren Little (*Teaching as the Learning Profession*, 1999):

The most common organization of schools – independent classrooms linked by a common parking lot – leaves one with the impression that teaching is a relatively straightforward activity, bolstered as needed by outside course work and other occasional in-service activities. Such an impression is readily dashed by virtually all other evidence, whether it comes from the journals of practicing teachers, the recorded observations of teacher-student interactions, comparisons of expert and novice teachers, or the in-depth study of children’s classroom experience. Teaching is more complex and difficult than we would be led to believe by looking at the typical organization of teachers’ work. Nor can its complexities be fully anticipated or resolved by whatever prior preparation teachers bring to the classroom. Teaching requires continual discovery and judgment.

That “continual discovery and judgment” can either be stifled by school organization or nurtured by it. For instance, a school district can schedule periodic staff development days and program consultants to present sessions on topics it decides, or it can offer opportunities for teachers to pursue institutes, courses, study groups, and workshops that meet their needs, can invest in school-based inquiry, and can offer school-based consultants to

support their efforts to develop particular practices. Schools may presume that textbooks or state- or district-imposed grade level standards are enough to guide teachers’ work or they may schedule regular time within each work week to promote teacher collaboration so that lessons are collegially planned and more highly polished, students’ needs are better met, and curriculum is cohesive from grade to grade.

When schools set out to support and promote effective professional development, they can do far more than arrange in-service sessions. In fact, one of the biggest impacts schools can have on professional development is not the selection of a specific in-service topic or the importation of an acknowledged expert to share information. It is to regularly schedule common time among teachers for planning, discussion and comparative observations about students.

Structuring the school work week so that teachers have adequate preparation, consultation and collaboration time does not have to be an add-on expense or an either-or sacrifice that supports professional development at the expense of teachers’ time with students. But it does require creative thinking and fresh approaches to the fragmented specialization that drives school staffing today. Schools that have restructured their staffing have been able to create shared planning time for teachers without added costs. For instance, instead of having pullouts and large numbers of aides for Title 1 and special education, these positions can be turned into classroom teacher slots so as to lower teacher-to-student ratios, spread workloads more evenly and provide more individualized attention to each student. In Boston, these pull-out positions constituted 40% of the teaching staff, and merely redeploying staff reduced class sizes and expanded planning time substantially in schools that chose to rethink their organizational assumptions (Miles and Darling-Hammond, 1998). The expertise of specialists reassigned to teaching teams can be shared with teachers through teaming, in-class consultation, and staff development they conduct. Teachers can work in teams that share responsibility for a number of students. Classes in aligned subjects, such as En-

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glish, history and writing, can be taught in block schedules by interdisciplinary teams. Longer class periods (90 to 120 minutes) and fewer classes reduce teaching loads and expand planning time for teachers in middle and high schools. These strategies have created opportunities for collaboration and personalization in many high schools associated with the Coalition of Essential Schools (Darling-Hammond, 1997b).

These are not simply theoretical restructuring concepts; they have been implemented and are working well in many schools. In one South Carolina school where 75 percent of the staff are now classroom teachers, teachers have 80 minutes a day for planning with their grade-level teams. At a Chicago school, teachers are in the classroom four days and have a fifth day for planning and collaboration while students rotate through “resource” classes in music, art, computers, physical education, library science and science lab. In Ohio, a school lowered pupil-teacher ratios to 15:1 by creating multi-age clusters of students and teachers, integrating both special education and Title 1 students (Miles, 1995; NCTAF, 1996).

It is not just schools that need to take a fresh look at structure and process, but policy makers as well. State legislators too often mandate dozens or even hundreds of small categorical programs that fragment funding and staffing and make it difficult to organize school efforts coherently. Sometimes boards or legislators mandate many specific curriculum requirements to address special interests rather than relying on professionals to integrate the most suitable material for reaching grade-level objectives and standards. On an individual basis, each new requirement seems reasonable and worthwhile; taken together they represent a massive burden of hoops that schools and teachers must jump through before they can get down to the serious matter of designing their work so that it supports students and their learning.

In short, schools and policy makers need to set the expectation and provide the opportunity for teaching to become a learning profession. They should support initiatives that help teachers be-

come expert in their work and then remove the many unnecessary constraints and distractions that keep teachers from focusing their attention on teaching and learning. If school norms and structures do not support the collaborative exploration and enactment of new content and practices, what teachers learn in networks, courses, study groups or seminars will not take deep root. And when professional development seeks merely to train teachers for compliance with state or district requirements, teacher reflection on concrete problems of practice and integration of knowledge and practice rarely occur. Movement is beginning to occur toward collaborative, inquiry models of professional development and toward revamping school organization to create new opportunities that enable study, reflection, problem solving, and collegial learning. Making this movement both widespread and uniform is the challenge facing policy makers today.

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## CONCLUSION

In the end, the advice about creating stimulating and effective professional development is much the same as the blueprint for revitalizing teacher preparation and novice induction. That is because teachers need the same basic knowledge and skills throughout their careers: Teachers need to know subject matter content thoroughly. They need to understand the learning process through a child's eyes, with sensitivity to and recognition of the vast diversity of background and life experiences that children bring to the classroom. And they need the opportunity to continually sharpen their practice against the grindstone of experience, new theoretical learning and shared discoveries about what actually works.

None of these will occur if professional development is an add-on, occasional event that teachers must juggle with their other duties and obligations. There must be a comprehensive structure, embedded in the everyday life of school, that ensures that teachers can acquire the skill and knowledge they need, practice what they learn and then reflect on the results. This structure, supported by state policy and embraced by schools, will provide the context for teaching as a career that is optimized by lifelong learning.

What policies will create teaching as a lifelong learning profession? The paradigm shift from teaching as the purview of those who can't ("those who can, do; those who can't, teach") to those who are masters of a complex process cannot be legislated, although it can be assisted by legislation. It is a shift that will come through continuing to shine a spotlight on documented proof of what succeeds in the classroom and which education investments can make a difference for students. And it is a shift that can be fostered by the vigorous pursuit and implementation of policies that form a concrete foundation for quality teaching. These policies include decisions to:

### 1. Create a base of strong pre-service education for all candidates.

Such a base would rest on extended programs that ensure a major in the discipline, along with adequate coursework on student learning, development, cultural and linguistic diversity, curriculum, assessment and teaching strategies integrated with

at least a yearlong student teaching experience. It would be supported by investments in a larger number of service scholarships and forgivable loans (Cal Teach Grants and APLE loans, for instance). Expanding high-quality, effective programs would be preferable to throwing dollars at low-quality strategies that create a continual revolving door of underprepared recruits who come and go without ever learning to teach adequately and who undermine the learning of many students during their tenure. Over time, insisting on strong pre-service programs will reduce attrition rates and increase competence.

### 2. Support high-quality induction models.

Support high-quality induction models by linking them to the California Standards for the Teaching Profession and urging districts to adopt models for beginning mentoring like those that have been so successful in Cincinnati, Columbus, Seattle, Rochester, and elsewhere.

These models should embrace a standards-based analysis of practice, using a strategy like the INTASC-based portfolios for beginning teachers launched in Connecticut.

For almost a decade, Connecticut has had a process of beginning teacher seminars, school-based mentoring and an assessment of basic teaching skills during the first two years of teaching. A relatively new component is the evaluation of teachers' ability to teach challenging content for understanding and to adapt teaching to the needs of diverse learners. Teachers are assessed based on a portfolio of their work, including videotapes of specific lessons, analysis of student work, and written descriptions of ways instruction was adapted for different learners. Such a process builds in the opportunity to examine practice and deepen understanding of how to teach on the part of both new teachers and those involved in mentoring and assessing.

### 3. Expand incentives for National Board Certification of teachers.

National Board preparation is another potent strategy for building in discourse about and analysis of practice throughout a teacher's career. Teachers who complete this rigorous process report that

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they find it the most powerful professional development they have experienced. One teacher found that the process of assembling a portfolio of his teaching and students' learning prompted him to rethink many of his approaches. Another said the process encouraged him to integrate other subjects in his lessons, rethink the organization of student groups and take a different approach to vocabulary building exercises.

New Jersey teacher Shirley Bzdewka said of the impact of Board certification on her day-to-day performance: "I'm a very different teacher now. I know I was a good teacher. But I also know that every teacher always has a responsibility to be better tomorrow than they were today, and I am a much more deliberate teacher now. I am much more focused. I can never, ever do anything again with my kids and not ask myself, 'Why? Why am I doing this? What are the effects on my kids? What are the benefits to my kids? It's not that I didn't care about those things before, but it's on such a conscious level now.'" (National Commission on Teaching and America's Future, 1996, p. 75)

#### 4. Establish teacher academies.

Establish teacher academies that offer a continuous menu of courses, institutes, and teacher-initiated learning opportunities.

One model, Cincinnati's Mayerson Academy, is the result of a business community/educator partnership with businesses providing the funding and a board of teachers, administrators, and university faculty running the program. Mayerson offers short- and long-term courses and seminars about curriculum, instruction and classroom management, as well as action labs that focus on specific topics such as cooperative learning strategies, cultural diversity, and school improvement.

#### 5. Develop university and school-initiated summer institutes in content pedagogical areas.

Develop university and school-initiated summer institutes in content pedagogical areas (literacy development, writing instruction, mathematics instruction, etc.), followed up with study groups

throughout the year and the availability of school-based coaches who can help teachers further develop these practices in the classroom.

#### 6. Restructure teacher time in schools.

Restructure teacher time in schools to allow at least 10 hours per week for regular collaborative planning, evaluation of student work, development of curriculum and lesson plans and demonstration lessons, and peer observation.

Adopting these policies would create an infrastructure for teacher learning adequate to the challenges that face California's teachers. Policymakers cannot mandate what matters most, which is the combination of knowledge, skills, and commitment that practitioners bring to their work and to their engagement with any innovation. But they can provide the context, the expectation and the opportunity for teachers to learn what they need to know and to practice their skills in a reflective, continually improving manner.

Now more than ever, research is showing what works and what works well. The challenge is one of alignment: bringing development practices into step with the practical needs of teachers; making state policies and school structures support effective teacher learning; and creating both the external expectation and self-perception of teachers as learning professionals who will continue to grow throughout their careers.





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