THE NUMBERS GAME
ENSURING QUANTITY AND QUALITY IN THE TEACHING WORKFORCE

THE REPORT OF THE NASBE STUDY GROUP ON TEACHER DEVELOPMENT, SUPPLY, AND DEMAND

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References
I. Introduction: What It Takes to Ensure High-Quality Teachers for All Students

One of the greatest challenges facing the United States as it looks toward the new millennium is the development of human capacity—specifically, the need for a highly educated, globally aware community of citizens who can lead the country into an era of increasing technological, moral, scientific, political and social complexity. Chief among the developers of our nation’s human capacity are teachers, who, along with parents, share responsibility for the growth of knowledge among the nation’s more than 50 million school-age youth.

Just as we expect all of today’s students to achieve high standards (previously expected of just an elite few), we must expect more from today’s teachers. But so far the nation has fallen short in its attempts to produce a sufficient number of teachers who are fully trained and capable of helping all students meet the new standards. Indeed, there is growing evidence that, particularly in the area of teacher training, critics of the overall quality of our teaching force may be justified in some of their concerns. For example, nearly one-third of aspiring teachers in Virginia failed a basic skills test administered this year. When one New York district administered an eleventh-grade reading test to applicants for teaching positions, 75 percent failed.

There is also evidence that critics of teacher recruitment and placement practices may have genuine cause for concern. In California, half of all math and science teachers do not have even a college minor in their major field of teaching, and over 10 percent of all new hires in teaching have no pedagogical training at all. Across the nation, over 70 percent of students taking physics classes in high-poverty secondary schools are being taught by a teacher who does not have even a college minor in physics.

Systemic reform in teaching begins by ensuring that every teacher in every classroom has the skills, experience and tools they need in order to help students learn what the state has defined as a well-rounded education. The NASBE Study Group on Teacher Development, Supply and Demand contends that, although hiring and placing teachers is a district and school responsibility, ensuring a sufficient supply of high-quality teachers is fundamentally an issue of state policy that requires far-reaching, systemic reform to build a coherent system of teacher recruitment, development and support. In most states, state boards of education have the authority to control access to the field through accreditation and licensure requirements and to set standards for continuing practice via certification and continuing education requirements. States can also provide incentives to attract more individuals to the field or allow disincentives to deter individuals from entering. Finally, state boards in most states can set standards that define the purposes and levels of all components of teacher development. Using their far-reaching authority over teacher education, licensure and certification, state board members have a responsibility to build a system of teacher development and supply that elevates teaching and learning across the state to higher standards.

There is no question that upgrading the teaching profession is paramount to any efforts to improve public education. Indeed, current reforms in schools to hold students to high standards will fail without skilled, well-trained teachers to guide students. Despite this fact, only a handful of states have developed comprehensive, systemic policies, based on effective schools research and best practice models, to improve and support their teaching force.
Many states resist building policies to improve the teaching force because they perceive that there is currently an urgent need to increase the number of teachers in the state and they believe that raising standards at a time of shortage is self-defeating. Historical evidence demonstrates, however, that raising standards among teachers actually has the opposite effect—attracting more candidates to the field of teaching rather than fewer. Furthermore, the Study Group has found that assumptions about an immediate or impending teacher shortage need to be reconsidered in light of overwhelming evidence that suggests, against conventional wisdom, that the real problems of teacher supply and demand center around distribution, not shortage.

The Complex Notion of an Impending National Teacher Shortage

The extent to which school districts are working under conditions of teacher shortage matters. It matters because historically teacher shortages have led, in the short term, to an easing of teacher licensure requirements to attract quick and easy candidates into the field and subsequent assumptions on the part of many that “anyone can teach.” Easing requirements to enter the field damages not only the professionalism of the teaching force, but also threatens the integrity of the state’s license to practice in education and jeopardizes the quality of education available to students across the state.

The media has been carrying stories of teacher shortages for some time, insisting that our nation’s schoolchildren are at risk because of an impending shortage of teachers in our nation’s classrooms. USA Today claimed that alternate certification programs need to be streamlined “as the teacher crunch arrives” (6/7/96, p. 14A). Time Magazine agreed: “With politicians slashing class sizes and a generation of teachers on the verge of retiring, American schools face a crunch: they will have to hire as many as one million new teachers over the next decade” (7/20/98, p. 24).

The truth is much more complex than most headlines imply. The United States will certainly need more and more teachers over the next decade. Student enrollments, expected to reach over 54 million by 2007, will be the highest in history and will require growth among the teaching force of about 800,000 over the next decade (NCES, 1997). Combined with an expected increase in teacher retirements, districts may actually need to hire as many as 2 million teachers over the next decade (NCTAF, 1997). This daunting estimate is one on which many theories of impending teacher shortage are based.

Nonetheless, the teacher supply and demand issue is not strictly an overall numbers game; for the most part, states are preparing sufficient and, in many cases, overly-abundant numbers of teachers (AAEE, 1996). In fact, each year nearly twice as many teachers are prepared in teacher preparation programs as actually enter teaching. In 1994, among graduates who majored in education, 22 percent prepared to, but did not teach in the year following graduation, and 51 percent of bachelor’s degree recipients in other fields who had also prepared to teach did not even apply for teaching jobs. As recently as 1994 less than 1 percent of teaching positions were vacant or temporarily filled by substitute teachers because suitable candidates could not be found (NCES, 1997a).

The picture of teacher supply and demand is made more complex by the fact that there are several sources of teacher supply besides newly minted individuals from undergraduate teacher education programs, the traditional and often quoted measure of teacher supply; graduate level teacher education programs, alternate routes to teaching careers, and entrance into the field from the “reserve pool” of certified but non-working teachers are also important sources of qualified new teachers. While undergraduate teacher education programs continue to be an important source of new teachers, more than half of newly hired teachers in 1990 were not new graduates from traditional teacher preparation programs.
The reserve pool, often neglected in discussions of teacher supply and demand, comprised one sixth of all new hires (Darling-Hammond and Sclan, 1996).

This is not to say that the U.S. does not have to contend with some serious issues in terms of teacher supply. On the contrary, the Study Group believes that most states are facing serious and complex problems in terms of supply and demand, but these problems of “shortage” are primarily a matter of distribution rather than of absolute numbers of candidates in the teaching pool. Wealthy districts rarely experience shortages; low-income ones often do. As districts experience localized shortages, they resort to hiring individuals who are often unprepared and unqualified to teach. As a consequence, even with an overabundance of qualified teachers, over a quarter of all teachers enter the teaching force without proper qualifications in their major field of teaching (NCTAF, 1997).

A Closer Look at the Real Problems in Teacher Quality, Supply and Demand

To improve the quality and quantity of teachers available to schools, state boards of education need to simultaneously develop a standards-based system of teacher preparation, evaluation and development while continuing to recruit more promising teacher candidates to the field and finding effective ways to encourage them to stay. Doing this may require state boards to consider new ways of allocating resources and professional authority to encourage change.

Regardless of the abundant number of teachers that are currently prepared and certified, many states have difficulty meeting the staffing needs of local districts. To truly meet the needs of schools and districts for an adequate supply of well-qualified teachers, policymakers need to recast the often publicized notion of a “teacher shortage” in order to direct policy more appropriately toward the real problems of teacher supply and demand. This will require taking actions in the following areas:

- **Standards and Quality**—States have traditionally made policies concerning teacher development and supply according to immediate needs rather than long-term plans. The result is usually an ad hoc array of programs and policies for teachers, many of which have conflicting purposes and may be based upon opposing conceptions of the purpose of teacher work, the content of teacher knowledge, and the nature of teacher skills. Without developing clear, challenging teacher standards and devising valid ways to measure teacher effectiveness according to those standards, states are likely to find it impossible to provide a pool of teachers possessing the skills and knowledge districts say they need. States need to develop systemic mechanisms, bound by a set of clear and precise standards, for teachers’ work and the work of those who support them in order to ensure that policies build efficiently from one another and teacher quality is consistently first-rate.

- **High-Quality, Diverse Recruitment and Distribution**—Teachers are largely unrepresentative of the diverse populations they serve and often unprepared to accept teaching positions in the subjects and communities where they are most needed. For example, while one-third of all students in U.S. public schools are children of
color, less than ten percent of individuals preparing to be teachers are members of a minority group (NCES, 1997a). Furthermore, while many states have a surplus of teachers overall, most states find it hard to place teachers in urban and rural schools and in subject specialties such as special education and the sciences. Consequently, states need to devise policies that fairly recruit and distribute a high-quality, diverse teaching pool across all districts.

- **Retention**—Estimates are that between one-third and one-half of all beginning teachers leave the classroom within the first five years. Not only does this mean that public resources are often squandered on teacher candidates who contribute very little time to schools, but it means that schools and districts are forced to expend enormous energies developing new teachers, who are likely to leave after only a few years and be replaced by yet another new recruit in need of special resources and support. This is a particular concern because high quality educational change rests in large part on the quality of teachers in our schools (Carnegie Forum, 1986; Holmes Group, 1986; National Governors Association, 1986; Darling-Hammond and Sclan, 1996). Consequently, states need to invest in policies and programs that reward teacher knowledge and skills and build supportive school organizations to improve the long-term retention of teachers.

- **Education and Training**—Preservice and inservice education for teachers has often been criticized for ignoring what teachers themselves say they need to know in order to do their jobs more effectively. States need to devise ways to incorporate the best of education and training knowledge into a standards-based system of teacher education.

- **Licensure and Certification**—Teacher licensure requirements have commonly failed to reflect appropriate standards of knowledge and performance among teachers. This makes it difficult for states to carry through with their legal responsibility to guarantee to the public that individuals admitted to practice have met meaningful licensure requirements. States need to devise licensure and certification criteria and measures that are based on a system of high-quality content and performance standards that can reasonably assure the public that individuals admitted to practice as teachers are indeed highly competent.

Solving the real teacher supply issues requires policies and programs that look very different than policies responding to a “general teacher shortage.” It requires, first, recruitment, education and training policies that are rigorous, coherent, standards-based and results-oriented and second, recruitment, education, retention and distribution policies that are sufficiently flexible to respond to different needs of different types of districts. Finally, it requires states to produce policies that are supported by high-quality data about programs and policies that work. Without a clear rationale for targeted and systemic policy decision-making, states may find that their policies are overly affected by political jockeying; with a clear rationale, on the other hand, policies are more likely to be systemic and effective. This report examines what a system of teacher development and supply should look like in order to be rigorous, coherent, flexible, standards- and results-oriented, and based on high-quality research.
Summary Recommendations of the NASBE Study Group on Teacher Development, Supply, and Demand

★ **STANDARDS:** To improve the quality and quantity of teachers available to schools, state boards of education need to simultaneously develop a standards-based system of teacher preparation, evaluation and development while continuing to recruit more promising teacher candidates to the field and finding effective ways to encourage them to stay. Doing this may require state boards to consider new ways of allocating resources and professional authority to encourage change.

★ **TEACHER RECRUITMENT:** States need to formulate policies and programs acknowledging that the problems in teacher recruitment and supply will not be solved through blanket strategies but through targeted programs that strategically recruit teachers with particular skills and characteristics.

★ **TEACHER RETENTION:** Retention of high-quality teachers is one of the greatest causes of teacher shortage. Therefore states should develop policies to improve the support, services, and growth opportunities available to educators in order to encourage truly good teachers to remain in the field.

★ **TEACHER EDUCATION AND PROFESSIONAL DEVELOPMENT:** States should create policies that extend teacher education beyond traditional university teacher preparation programs and facilitate a variety of high-quality ways in which teachers and teacher candidates can develop the knowledge and skills required to bring students to high standards. States should also consider various methods of teacher education, such as alternate routes to licensure and preparation programs beyond a bachelor’s, that may attract candidates to, rather than deter them from, careers in teaching.

★ **TEACHER LICENSURE AND RECOGNITION OF ACCOMPLISHED PRACTICE:** States need to create policies that hold individuals to knowledge and performance standards, more than rigid course and degree requirements, in order to receive a license to teach. These standards should be applied to every teaching credential issued by the state, regardless of short-term needs for individuals to fill vacant classrooms. Furthermore, states should devise mechanisms to encourage experienced teachers to develop their skills beyond those levels required for initial licensure.
Traditionally, state initiatives to support and develop teachers have been characterized as being a series of disjointed, conflicting policies. For example:

- Class size reduction plans make it hard to put a well-qualified teacher in rapidly increasing numbers of classrooms;
- Teacher certification requirements that emphasize knowledge via paper-and-pencil tests, which may measure content knowledge, make it hard to ensure that teachers have the necessary instructional skills to be effective in classrooms; and
- Emergency certification programs in response to immediate teacher shortages conflict with efforts to “raise the bar” to enter and remain in the field.

The primary reason why policies concerning teacher development have been so ad hoc is because most states have no overarching priorities or unifying definition of what teachers should know and be able to do—thus, policies have been developed without broad, consistent focus. It is no wonder, then, that states have historically had little notion of what standards their teachers were meeting, what teachers’ assumptions were about student learning, or how effective teachers were.

Standards for teachers represent a state’s commitment to parents and communities that their children’s teachers are highly capable and have the knowledge and skills needed to nurture the full potential of all students. Forming consensus around what constitutes teacher competence is also the best way that teachers themselves can make good on the promise of competence that they, and the states that licence them, need to be able to make to the public. Properly devised, standards represent what the people in a state have decided they want in their teachers; that is, the standards describe the knowledge, skills, and dispositions that each teacher should possess in order to be competent—in order, that is, to effectively help students reach the state’s learner outcomes.

Teacher standards are also critical to education reform. Developing teachers to lead critical change at the school level, rather than relying on universities, professional associations, or bureaucrats, gives teachers a sense of ownership over the reform process and makes reform more likely to succeed. But placing teachers at the heart of systemic reform requires teachers to have certain skills and knowledge that will enable them to participate meaningfully in changing the nature of their own work. Furthermore, defining and measuring standards is the only way in which states can ensure that the pool of teachers they certify, and from which districts may select, is of high quality. States need to have in place a set of standards for teacher preparation, support and development upon which a coordinated policy and programmatic system can be built (NASBE, 1996).

States across the country have begun to define what teachers need to know and be able to do in order to bring students to high standards. For example, Ohio has adopted a set of teacher standards and plans to make initial and continuing licensure dependent upon candidates’ results on rigorous performance assessments that are tied to the standards. North Carolina, in their Excellent Schools Act of 1997, established a system that ties teacher licensure to state teacher standards across a three-tiered system of initial, continuing, and advanced certification. All levels of teacher certification are tied to state teacher standards via a demanding performance assessment. The Maryland State Board has adopted standards for
The State Role in Teacher Development, Supply, and Demand

Historically, the job of placing teachers in classrooms has been largely the responsibility of local districts. While the Study Group agrees that local districts should continue to make specific teacher hiring and placement decisions, the state also has important roles in enabling local districts to do their job:

• States, through rigorous preparation and licensure requirements, need to ensure a pool of high-quality teachers from which districts can pick and choose with confidence;
• States, by accrediting preparation programs that emphasize the particular needs of local districts, need to compel programs to prepare teachers to accept positions and succeed in subjects and geographic areas where they are needed;
• States, through comprehensive research and evaluation programs, need to gather data about teacher demand and effective ways of meeting demand and use this data to inform program implementation;
• States need to ensure that preparation programs that are re-approved have a track record of preparing effective teachers; and
• States need to premise the entire system of teacher supply and development upon rigorous standards and assessments that have been developed via open discussion with teachers, parents, researchers, policymakers, and the general public.

accreditation of all teacher preparation programs and for initial licensure of all teaching candidates. Using existing national standards, Maryland has also adopted a set of standards for teacher professional development. Maine has adapted a set of national teacher standards to correspond with the students learning standards, and Rhode Island has instituted a set of comprehensive, nationally recognized standards for beginning teachers and is implementing a portfolio assessment for beginning teachers that is tied to the standards.

The Study Group believes that it is very important for each state to go through its own process of developing teacher standards that corresponds with each state’s unique set of student standards and that defines the norms and expectations of the particular citizens of each state. When developed comprehensively, these teacher standards include:

• Expectations for colleges of education in terms of competencies, classroom experience requirements and performance and knowledge requirements among their graduates;
• Expectations for graduates of teacher training programs in terms of both knowledge and performance;
• Expectations for continuing teachers in terms of professional development, skills and knowledge; and
• Expectations for professional development providers defined in terms of student and teacher outcomes.

Devising comprehensive standards has implications for the spectrum of state education policies because standards move the focus of policy from inputs and processes to results. The actual processes students, teachers and administrators employ to achieve the defined standards become less important from a policy perspective, and across the system individuals are evaluated according to the results they achieve.

Fortunately, not every state needs to “reinvent the wheel” when they devise teacher standards; there is considerable agreement already about necessary knowledge, skills and dispositions for teachers that have been developed by states and by national projects such as the National Board for Professional Teaching Standards (NBPTS), the National Council for the Accreditation of Teacher Education, (NCATE), and the Interstate New
Teacher Assessment and Support Consortium (INTASC). All of these initiatives share a view of teaching as a complex undertaking, “grounded in decisions that are contingent on students’ needs and instructional goals, and reciprocal, that is, continually shaped and reshaped by students’ responses to learning events” (Darling-Hammond and Sclan, 1996). Whether or not state policymakers decide to adopt components of existing teacher standards or develop new standards, the Study Group believes that policymakers need to be aware of the rationale for and content of the important work that has been accomplished by these existing projects.

Finally, the Study Group found that when basing policy decisions on a coordinated system of teacher standards, state policymakers need to keep at least three things in mind:

- Teacher standards need to be aligned with clear content and performance standards for students. Every student standard implies a particular notion of teaching and learning that needs to be built into standards for teachers. For example, if students are being asked to think thematically and link subject areas across concepts, then teacher standards need to clearly expect teachers to connect subject areas in thematic teaching.

- Setting high standards for students and for teachers morally obligates the state to provide the structures and supports that students and teachers need to meet the standards. Doing so requires states to think differently about the ways in which resources are allocated, since individual districts will likely require very different kinds of support in order to meet standards.

- Programs and policies designed to support a standards-based system need to balance the need for implementing what we know works with what is promising, new and innovative. State funds need to be allocated strategically, as an incentive to keep effective programs operating while at the same time encouraging the design, implementation and evaluation of promising new programs. Relatedly, state policymakers need to know which policies and programs have been proven effective in order to make informed decisions about what to implement.
Removing Poorly Performing Teachers

A standards-based teacher development system needs to have mechanisms in place to judge whether experienced teachers are meeting professional standards. Many school districts have developed innovative programs that incorporate peer review and intensive support and assistance from lead teachers and mentors in order to support beginning teachers or experienced teachers who find it difficult to meet state standards. Teachers who are unable to improve their practice are counseled out of the field.

Peer review and assistance programs represent new models of collaboration between unions and school boards that have proven extremely effective at both improving teachers' practice and dismissing teachers. Peer review and assistance programs have been implemented by AFT and NEA locals in several cities in Ohio and in Rochester and Seattle. Each program was established through collective bargaining agreements and is governed by a panel of teachers and administrators.

Peer review and assistance programs credit their success to the fact that they review teachers' practice more comprehensively than traditional “checklist” approaches. Colleagues and administrators examine data on teacher and student performance to determine a teacher's ability. Another reason for success is the way in which excellent teachers are freed from a small portion of their classroom responsibilities to work intensively with their peers, both in terms of evaluation and assistance.

In each case, peer assistance programs have raised standards, and more teachers have received assistance to improve their practice (and more have been dismissed) than ever occurred under previous teacher evaluation programs. For example, in Rochester about 10 percent of experienced teachers referred for “intervention” to improve their practice determined, through extensive work with their tutor, that they should leave teaching.

III. High-Quality Teacher Recruitment and Distribution: Differentiated Policies for Differentiated Needs

States need to formulate policies and programs acknowledging that the problems in teacher recruitment and supply will not be solved through blanket strategies but through targeted programs that strategically recruit teachers with particular skills and characteristics.

Once state standards are in place that define expected teacher knowledge, skills and dispositions, state policymakers have a moral obligation to develop policies that: 1) support the standards functionally and philosophically; and 2) develop and distribute resources in ways that help schools and districts hire high-quality teachers who meet these standards. But providing high-quality teachers to all students requires states to: recruit good, diverse prospective candidates who are able and willing to teach in high-demand subject and geographic areas; retain high quality teachers for long-term careers in the field; and educate teachers to meet high standards by providing effective education and training across teachers' careers. These are the critical elements of a comprehensive teacher development policy.

Recruiting, retaining and educating sufficient numbers of high-quality teachers to work in every type of school and district across the country is extremely complex. Just as the circumstances, goals, priorities and expectations of schools vary, so too do the difficulties they face in the recruitment, retention, and education of their teaching force. While state policies need to be standardized to the extent that everyone is held to high standards, they also need to be differentiated to serve every school, in every circumstance, with every type of goal, priority and expectation. The Study Group believes emphatically that this combination of flexibility within high standards across policies of teacher recruitment, distribution, retention, and education is the key to effective teacher development policy.

In large part, most states do not need to recruit more candidates into teacher preparation programs. Most states do not even need to attract higher quality candidates to teaching; those admitted to teacher preparation programs are now above average in terms of college entrance qualifications (NCTAF, 1997). What states do need, however, are targeted programs that attract candidates who are willing and able to meet the needs of the schools in which they will be asked to teach. The most dire needs faced by districts are for: 1) teachers who are racially, culturally and ethnically diverse; 2) teachers who are qualified to teach specific subjects in which teachers are in short supply, and 3) teachers who are willing to teach in high-poverty schools and schools serving students of color, primarily in urban areas.

Our Nation’s Monochrome Teaching Force

Across the nation, over one-third of public school students are individuals of color and about five percent of students are limited-English proficient. Teaching students who contend with varied and often challenging circumstances is a complex task that requires input and intervention from individuals who can understand and respond to the needs of an ethnically and racially diverse student body.

There are several reasons states should want to attract and retain a diverse cadre of teachers:

• Teachers of color and ethnically diverse teachers are often the most successful teachers in the neediest schools—those with high proportions of students of color (Howey & Zimpher, 1993).
• Diverse members of local communities are often the most likely and willing candidates to instruct students with limited-English proficiency and other special needs (RNT, 1996);

• Studies make clear that teachers of color and ethnically diverse teachers are often able to forge more meaningful ties with local ethnic/racial communities and demonstrate greater understanding of the particular circumstances of racially and ethnically diverse students than are white teachers (RNT, 1996);

• Men and women who are racially and ethnically diverse can provide valuable role models not only to students of color, but also to white students;

• There are indications that students of color and ethnically diverse students achieve more when taught by individuals they believe are like themselves in terms of race, class and culture; and

• Teachers of color and ethnically diverse teachers may be more likely to encourage students of color to enter teaching.

Despite myriad reasons why ensuring a diverse teaching pool is important, the typical graduate of a teacher preparation program is white, female, 21 years old, speaks only English, from a small town and wanting to teach in the same (AACTE, 1996). In recent decades diversity among the nation’s teaching force has actually decreased, particularly when compared to the growing diversity among public school students; while over one-third of public school students are individuals of color, only about 10 percent of teachers are. Overall, the need for teachers of color is so dire that in North Carolina, for example, one report concluded that “if current trends continue, the average minority child could conceivably have no minority teachers during the K-12 years” (North Carolina Association of Educators, 1994). The few teachers of color who are in the current workforce tend to cluster in particular schools, disproportionately teaching in urban schools and those serving students of color (See Figure 1).

“...The race and background of [students’] teachers tell them something about power and authority in contemporary America. These messages influence children’s attitudes toward school, their academic accomplishments, and the views of their own and others’ intrinsic worth. The views they form in school about justice and fairness also influence their future citizenship...”


The good news is that several successful programs to attract individuals of color and ethnically diverse individuals to careers in teaching provide helpful lessons in the necessary components of an effective program to recruit diverse teaching candidates. Successful programs: insist that diverse candidates, regardless of their route of entry into teaching, be held to the same standards as all other teacher candidates; provide courses in local communities instead of exclusively on university campuses; provide financial support to enrolled students; offer classes in the evening and on weekends; provide extensive academic and social support to diverse candidates; and often recruit teacher candidates from existing pools of school paraprofessionals. Graduate teacher preparation programs, particularly those that offer some of the program characteristics listed above, also attract above-average percentages of individuals of color.

The Study Group believes that states need to invest in what works to attract diverse candidates to careers in teaching. Some states and local communities have responded to the need for diverse teachers with innovative programs that have proven successful at attracting non-traditional candidates to the teaching field.

• South Carolina’s Teacher Cadet Project involves teachers, administrators, and univer-
Programs such as South Carolina’s are particularly promising because there is evidence that participants of early recruitment programs are more than one-third minority (RNT, 1993).

- Responding to the fact that over 90 percent of teachers on the Navajo reservation are not Navajo, the Navajo Nation Ford Teacher Education Program recruits teachers from the Navajo Nation to study with a consortium of six colleges and universities. Participants receive sizable scholarships along with stipends for transportation and child care assistance, intensive academic advisement, counseling, and support. The Program has successfully produced about 40 new Navajo teachers and over 200 Navajo-speaking teacher aides.

- In Los Angeles, California, a consortium of colleges, local teacher unions, policy organizations, and the Los Angeles Unified School District operate a program to train Latino paraprofessionals to be teachers. This program offers strong academic and social support for participants, including a cohort system of peer support, faculty mentors at each teaching assistant’s home school, and adjunct class sessions for program participants who need academic assistance. In operation since 1992, the Latino Teacher Project has an extremely low dropout rate and has produced significant numbers of high quality teachers for Los Angeles schools.

More of the Same or More of What’s Needed?

Evidence is clear that the nation’s teachers are poorly distributed across subjects and specialities, causing acute shortages in some fields of teaching at the same time that there are sizable surpluses in others. Not surprisingly, shortage areas are largely those fields in which higher paying career options are available (such as the sciences) or in which teaching placements are disproportionately in low-income schools and/or schools serving students of color.

State policymakers are often quick to point out that teacher training programs are doing exceptionally well at producing teachers that districts don’t need. For example, despite a surplus of elementary teachers in every region of the country, almost half of all education degrees, about 50,000 in all, are conferred in elementary education. On the other side of the spectrum, the nation produced only 54 bachelor’s degrees in bilingual
Alternate Routes to Teaching

Alternative routes for educating teachers is a fairly recent, but rapidly expanding initiative that allows districts, colleges and universities, and other educational agencies to offer licensure opportunities for teachers who complete a preparation program that may differ in content, structure, recruitment strategy, or target population from traditional university undergraduate programs in teacher preparation. Driving this trend is the desire to achieve at least four important goals: increasing the pool of teachers competent in high-demand educational specialties, increasing the participation of under-represented racial/ethnic and cultural groups; increasing staff levels of urban and high-poverty schools; and decreasing the need for emergency credentialing to meet local teacher shortages.

Currently, most states allow some form of alternate routes, although alternate programs can vary widely according to regional needs and local resources. For example, some regions with pressing needs for bilingual and special education teachers have found educational paraprofessionals to be excellent candidates for alternate routes into teacher careers in those fields. In regions with large military or business economies, some alternate routes have catered to retired military officers or businessmen who often bring technical skills and scientific knowledge to new careers in teaching.

Evaluating alternate routes according to the four goals above, several programs are highly successful. Alternative routes to teaching increase minority representation in teaching. In Texas, it is the primary means of attracting minority professionals into teaching. Not only do Texas interns from alternate preparation programs have higher pass rates on certification tests than do traditional education graduates, but minority interns have higher pass rates than minorities who were initially prepared through regular channels. Furthermore, the Los Angeles Unified School District's Intern Program recruited minorities at a much higher rate than the California state university system. New Jersey also experienced similar success with their alternate routes to teaching. Teachers from alternate routes are also more likely to teach in urban schools than teachers from traditional preparation programs, and there is evidence that attrition rates both during program participation and after becoming a teacher are the same or lower among alternate route graduates (RNT, 1996; Darling-Hammond, et al., 1989, in Dill, V.S., 1996; Stoddart, 1990; Adams and Dial, 1993).

Today, well-constructed programs are no longer considered by most to be “back-door” access to careers in teaching. As a matter of fact, entrance to some alternate routes have become more rigorous and competitive than many traditional university preparation programs. In some “cases, as models proliferate, lines may blur between what was formerly a universally defined ‘traditional’ model and its distinct ‘alternatives’” (Dill, 1996).

The evidence is clear: when judged by results, high-quality alternate routes to teaching need not be viewed as a compromise in teacher preparation standards. On the contrary, an effective standards-based system of teacher preparation welcomes innovations in “process” that demonstrate promise in achieving the results states expect.
education, when this field claims the third most severe shortage in the nation and is in short supply in every region of the country (NCES, 1997b). (See Table 1 on page 18.)

Although it may be tempting for policymakers to blame colleges and universities for preparing individuals for teaching fields where there are already large surpluses, the Study Group asserts it is the responsibility of the state through accreditation, more than colleges, universities or school districts, to ensure that the pool of potential candidates available to schools and districts is comprised of teachers who can meet their needs. States that continuously accredit programs and certify abundant number of teachers in surplus fields when districts are desperate for specialists in shortage fields are failing to be accountable for providing districts with the tools they need to bring students to high standards.

Research has shown that successful programs for attracting candidates to high-need fields often have: an uncompromising position that all teacher candidates, even those preparing in high-need subjects, meet high standards in order to be licensed; financial incentives for currently practicing or newly recruited teachers to become qualified in a high-need subject area; partnerships with local businesses and the military to attract early retirees and career-changers to high-need teaching fields; efforts to attract currently practicing paraprofessionals, particularly in bilingual and special education, to teacher training programs; and effective recruitment and public awareness campaigns that emphasize the rewards of a career in teaching. States that take seriously the necessity of attracting candidates to high-need fields should consider incorporating these criteria into their accountability and accreditation systems for teacher education programs.

Current projects undertaken by several states, districts, and private entities demonstrate that states can increase the number of teacher candidates choosing to specialize in shortage areas by thinking creatively about who to recruit and how to educate them.

- Several school districts offer free training to prepare existing staff members to teach in fields of shortage. About one in five school districts offers free training for staff to prepare to teach in a shortage field.
- North Carolina established alternate certification programs in the 1980s that, by the end of the decade, were preparing 15 percent of all mathematics teachers in the state (Dill, 1996). Evaluations indicated that teachers in North Carolina from alternate programs were as competent and as successful on teacher examinations as teachers from traditional preparation programs.
- The California Mathematics and Science Teacher Corps Program was established through partnerships between California State University and several corporations, which provide stipends for their retiring employees to enter teacher preparation programs. Coming from companies such as IBM, TRW, and Hughes, most participants have master’s degrees in math or science fields and several years of work experience as engineers.

**Going Where the Jobs Are**

Not only are teachers demographically unrepresentative and specializing disproportionately in fields where there is little or no need, but once prepared to teach, individuals apply for and accept teaching positions in highly inequitable patterns. This causes severe local and regional shortages of qualified teachers, particularly in urban and rural high-poverty districts. For example, in 1990 almost one-quarter of central city public schools had teaching vacancies that were impossible to fill, particularly in the field of bilingual education (CGCS, 1993). States need to develop policies to help all districts recruit high quality teachers to work in their schools and to encourage teachers to enter careers in states, districts, and schools with the most severe teacher shortages.
# Table 1: Teacher Demand and Degrees Conferred, by Teaching Subject

<table>
<thead>
<tr>
<th>Considerable Shortage</th>
<th>Relative Demand 1996*</th>
<th>Bachelor's Degrees Conferred 1995</th>
<th>Master's Degrees Conferred 1995</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speech Pathology</td>
<td>4.48</td>
<td>798</td>
<td>218</td>
</tr>
<tr>
<td>Behavioral Disorders</td>
<td>4.33</td>
<td>312</td>
<td>231</td>
</tr>
<tr>
<td>Bilingual Education</td>
<td>4.32</td>
<td>74</td>
<td>286</td>
</tr>
<tr>
<td>Mentally Handicapped</td>
<td>4.22</td>
<td>578</td>
<td>123</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Some Shortage</th>
<th>Relative Demand 1996*</th>
<th>Bachelor's Degrees Conferred 1995</th>
<th>Master's Degrees Conferred 1995</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning Disability</td>
<td>4.19</td>
<td>633</td>
<td>549</td>
</tr>
<tr>
<td>Multiple Handicapped</td>
<td>4.15</td>
<td>142</td>
<td>214</td>
</tr>
<tr>
<td>Audiology</td>
<td>4.14</td>
<td>-- **</td>
<td>--</td>
</tr>
<tr>
<td>Physically Impaired</td>
<td>4.13</td>
<td>38</td>
<td>60</td>
</tr>
<tr>
<td>Hearing Impaired</td>
<td>4.12</td>
<td>259</td>
<td>217</td>
</tr>
<tr>
<td>Visually Impaired</td>
<td>4.05</td>
<td>40</td>
<td>11</td>
</tr>
<tr>
<td>Mathematics</td>
<td>3.85</td>
<td>1,756</td>
<td>837</td>
</tr>
<tr>
<td>English as a Second Language</td>
<td>3.81</td>
<td>45</td>
<td>1,634</td>
</tr>
<tr>
<td>Technology Education</td>
<td>3.79</td>
<td>1,447</td>
<td>413</td>
</tr>
<tr>
<td>Computer Science</td>
<td>3.64</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Science</td>
<td>4.05-3.49</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Some Surplus</th>
<th>Relative Demand 1996*</th>
<th>Bachelor's Degrees Conferred 1995</th>
<th>Master's Degrees Conferred 1995</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art/Visual Education</td>
<td>2.50</td>
<td>1,484</td>
<td>731</td>
</tr>
<tr>
<td>Elementary Education-Pre-K</td>
<td>2.45</td>
<td>46,840</td>
<td>13,256</td>
</tr>
<tr>
<td>Intermediate</td>
<td>2.41</td>
<td>1,397</td>
<td>615</td>
</tr>
<tr>
<td>Kindergarten</td>
<td>2.33</td>
<td>6,236</td>
<td>2,021</td>
</tr>
<tr>
<td>Health Education</td>
<td>2.22</td>
<td>1,746</td>
<td>868</td>
</tr>
<tr>
<td>Physical Education</td>
<td>2.05</td>
<td>11,829</td>
<td>2,961</td>
</tr>
<tr>
<td>Social Science/Social Studies Education</td>
<td>1.94</td>
<td>3,067</td>
<td>602</td>
</tr>
</tbody>
</table>


* “Relative Demand” is based upon the opinions of a national sample of university directors of career services, deans of teacher education divisions, and school district personnel administrators.

** No data available.
Districts do not have equal ability to attract teachers for several reasons largely related to teacher working conditions. Wealthy districts often report receiving hundreds of qualified applicants for a single teacher opening. But many high-poverty districts and schools cannot offer the pay, resources, or employment conditions to regularly attract quality teachers. In general, these schools have higher student:teacher ratios, lower pay, fewer classroom resources, more discipline problems, lower levels of student achievement, less educated teachers and less administrator support than other schools. It is little wonder that most teachers decide to teach elsewhere. Nor is it surprising that on almost every measure, high-poverty schools end up staffed with less educated, less experienced teachers who are often teaching under difficult circumstances and are more likely to be teaching without the proper qualifications.

The current ad hoc system of distributing high-quality teachers disproportionately to wealthy schools and less-qualified teachers to poorer schools places high-risk, high-poverty students at even greater risk of academic failure by giving them fewer instructional resources and fewer qualified teachers. Particularly in states with high-stakes accountability programs for students, unequal distribution of teaching resources may have serious implications for states as they work to ensure that all students meet academic standards.

The Study Group believes emphatically that the state has a responsibility to see to it that all students, regardless of the community in which they live, are taught by well-trained, fully qualified teachers. Providing such a guarantee may require states to provide incentives to help districts with greater need compete for high-quality teachers. Some state and district programs have met with considerable success:

In Connecticut and Kentucky, salary equalization programs among high-need and low-need districts have reduced teacher shortages in urban and rural areas. In Connecticut, where this strategy has been employed for over a decade, policymakers have found that distributing state funds to equalize beginning state salaries improved teacher standards overall and within three years of beginning the salary equalization program the state eliminated most teacher shortages.

Nevada plans to offer one extra year toward retirement for every five years a teacher works in a high-need urban school. Not only does this plan promise to help resolve teacher shortages in urban areas, but it may attract experienced teachers to urban schools rather than the young, inexperienced teachers who traditionally staff inner-city schools.

Conclusion

Thinking of new ways to attract promising candidates to careers in teaching need not imply any sacrifice in quality. On the contrary, some states have found that alternate programs to attract teaching candidates actually have higher standards for admission and higher performance levels upon completion than traditional teacher preparation programs. In a standards-based system of teacher development, states are free to think flexibly about ways in which candidates can meet the standards, as long as the standards remain intact and all preparation programs, regardless of their particular purpose, are held accountable for them. In a standards-based system, then, states should narrow their potential teaching pool through quality indicators, codified in standards, and enlarge their teaching pool by ensuring that every promising candidate, particularly candidates with qualities, knowledge, skills, and expertise most needed by schools, can see a viable way into the field.
The Acute Needs of High-Poverty Urban Schools

Almost every cause of teacher shortage is magnified in high-poverty urban schools, which have disproportionate difficulty recruiting and retaining teachers, some of the greatest need for diverse teachers to support a diverse student population, and some of the most challenging teaching and learning circumstances in the country. In general, high-poverty urban schools struggle with:

- The youngest teachers with the least experience;
- The highest percentage of teachers teaching out-of-field or without proper qualifications;
- The highest rates of teacher burnout and teacher resignation;
- The lowest levels of student achievement;
- The highest levels of student dropout;
- The highest class sizes;
- The lowest teacher salaries, particularly at higher levels of the salary scale; and
- The lowest measures of teacher autonomy and decision-making authority.

Students in high-poverty, urban schools are fundamentally shortchanged—denied high-quality learning experiences with qualified teachers in supportive learning environments. Teachers in these schools are shortchanged too—placed in jobs for which they are not qualified, asked to contend with challenging community and student circumstances for which they are not prepared, asked to teach with limited resources and restricted autonomy, rewarded with maximum salaries well below those given to teachers in more affluent districts, and expected to assume responsibility for an above-average number of students, many of whom may be performing below state standards.

States need to create policies that specifically serve teachers and students who find themselves, by circumstance or by choice, in high-poverty urban schools. In an age where all students are expected to learn to high standards, it is important to ensure that the opportunities students have to learn are fair. One-size-fits-all policies will never serve urban schools like they do schools in suburban and rural areas. **States need to implement policies that will have a particularly positive affect on the supply of highly-qualified teachers in urban schools.** This means providing teachers in high-poverty urban schools with more of the following components of good working conditions:

- Effective professional development targeted to the needs of urban teachers, children and youth;
- Smaller class sizes in high-poverty urban schools so student instruction can be appropriately individualized;
- More planning time for teachers who work in high-poverty urban schools to plan for instruction of students with particular types of challenges;
- Comprehensive teacher induction programs that pay attention to the realities of teaching in high-poverty urban schools; and
- High quality resources, materials and facilities to help teachers and students tackle the job of teaching and learning.
Selecting and Preparing Successful Teachers for Urban Schools

Martin Haberman has completed some of the most comprehensive work to-date on what makes a successful teacher in an urban school, as defined by principals, administrators, supervisors, other teachers, and parents and by student results on standardized tests and work samples. Fundamentally, Haberman asserts that a successful teacher in an urban school is usually not the typical preservice teacher: a 25-year-old white woman from a small town with an above-average grade point average who “always wanted to teach.” Nor does a successful teacher always have the highest standardized test scores and grade point averages. Instead, Haberman asserts that a successful urban teacher is one who possesses certain characteristics:

- Did not decide to teach until after graduation from college;
- Successfully undertook several jobs or careers prior to teaching;
- Is between 30 and 50 years old;
- Attended an urban high school;
- Has raised children, is a parent, or has close, meaningful relationships with children;
- Currently lives in a city and plans to continue doing so;
- Is seeking and preparing for a teaching position in an urban school instead of any other kind of school;
- Has had personal, continuing experience with violence and of living “normally” in a violent area;
- Has majored in anything at a college or university;
- May or may not have a grade point average that is above average;
- Expects to visit the homes of the children in his or her class;
- Has awareness or experience with the types of health and human services available in urban area;
- Is likely to be a person of color rather than a person of Euro-American background; and
- Expects the bureaucracy in schools to be irrational and obtrusive.

Haberman suggests that, taken together, these traits characterize (but do not explain) teaching success in urban schools. Although successful urban teachers need to be bright and resourceful, the “best and brightest” stereotype that connects high grade point averages and standardized test scores with potential for high-quality teaching does not necessarily apply to the profile of a successful teacher in poor, urban schools.

Based on over thirty years of working with programs to prepare urban teachers, Haberman suggests a number of program elements for making traditional teacher education more effective at preparing teachers to work in diverse urban schools:

- Providing information about the relationship of language, culture, and learning, and teaching procedures for studying their own classrooms.
- Seeing relationships between learning at home and at school.
- Teaching candidates to adapt instruction and assessment to the students’ background.
- Exposing candidates to examples of successful teaching of diverse students.
- Giving candidates community experience with various cultural groups.
- Having students practice teach in schools serving diverse groups.
- Helping candidates develop their own cultural identities.
- Teaching dynamics of prejudice in the classroom and how to deal with it.
- Teaching candidates about social oppression and economic inequities.
- Teaching candidates about learning styles of various groups and the limitations of this information.

Policy Options: Recruiting Diverse Teachers to Work in High-Need Fields and High-Need Geographic Areas

State options for encouraging universities and other teacher preparation programs to attract diverse candidates and prepare them to teach in high need fields and high need locations:

- **Accreditation**—States may consider using accreditation to minimize duplication of overly-abundant programs of study and maximize the number of programs in high-need subject areas, to require teacher candidates to have diverse experiences as part of their training, and to require that teacher education curricula accurately represent and prepare candidates for the types of teaching situations in which individuals may be placed, including urban and high-poverty environments.

- **Financial Incentives**—States may consider providing financial incentives to encourage colleges to open teacher preparation programs in high-need subject areas or to run off-campus preparation programs for non-traditional teacher candidates in high-need communities.

State options for enabling high-need schools and districts to attract diverse candidates who are qualified and willing to teach in high-need communities:

- **Incentives to attract teachers to high-need districts**—States may consider subsidizing reduced class sizes, increased teacher planning time, increased professional development, early retirement bonuses, or other incentives to attract teachers to schools and districts with chronic teacher shortages.

- **Funds to make salaries more equitable across districts**—States may consider equalizing or subsidizing salaries across districts, which has reduced teacher shortages in urban and rural areas in at least two states that have tried it.

- **Programs to train practicing teachers in shortage areas**—Districts have found that it is sometimes easier to retrain a currently practicing teacher in a shortage subject than to search for a teacher on the “open market” who is qualified to teach in a shortage area. Often, educating a teacher for a second certification is funded by the district, but, states may consider subsidizing this cheaper and faster method of qualifying teachers in shortage areas.

State options for encouraging high-quality, diverse candidates to the field of teaching:

- **Alternate routes to teaching** — High-quality, accountable alternate routes have demonstrated success in attracting and retaining diverse candidates to high-poverty, high-need schools and districts.

- **Early recruitment programs** — Early recruitment among high school, and even elementary school, students has helped some states develop a more diverse teaching force.

- **Support services in higher education for promising students with learning gaps** — States may consider providing support services for promising students who are willing to teach in high-need districts, but who have learning gaps as a result of graduating from high-need schools. Because these students often had gaps in their primary and secondary education and have had few college or university role models in their communities, many may need academic counseling in order to remain in teacher preparation programs and thrive.

- **Improved transition programs from two-year to four-year colleges**—Many students of color are enrolled in two-year rather than four-year institutions. Providing counseling, academic and financial support, and teaching field experiences to students of color attending two-year institutions may encourage more individuals to transfer into four-year programs of teacher preparation.
IV. Teacher Retention

Retention of high-quality teachers is one of the greatest causes of teacher shortage. Therefore states should develop policies to improve the support, services, and growth opportunities available to educators in order to encourage truly good teachers to remain in the field.

States face a daunting problem in terms of teacher retention. Estimates are that approximately one-third of all teachers leave the field within five years of beginning as a teacher, a rate that rises to one-half among teachers in high-poverty schools and schools with high proportions of students of color. Not only is teacher attrition a serious problem, but it is also on the rise; between 1988 and 1994, attrition grew from 5.6 percent of the entire teacher workforce to 6.6 percent annually (NCES, 1997c). Beginning teachers, those who are academically talented, those teaching in high-poverty schools, and those with a disciplinary specialty in high demand outside of education (such as math or science) tend to leave teaching first (Sclan, 1993, NCES, 1997c). These statistics are particularly alarming because many fields with high attrition rates are those that are already in short supply.

For teachers to remain in teaching, the rewards need to outweigh the frustrations. With one-quarter of all teachers who leave the profession saying they were dissatisfied with teaching and/or wanted a different career (a percentage that is even higher among teachers working in high-poverty schools) (NCES, 1995, 1997a), improving teachers’ level of satisfaction is a key component of improving teacher retention. The Study Group contends that improving the retention of teachers requires states to address the reasons people choose to leave teaching in the first place.

Surveys point to several key components of a “satisfying job in teaching” that can be addressed in policy. First, satisfied teachers are more likely to work in schools with supportive environments. Second, they are likely to feel satisfied with their salary, and finally, they are likely to be teaching in their field of expertise.

Supportive School Environment

The manner in which schools organize teachers’ and students’ work has a clear and direct impact on teachers’ decisions to leave or stay in the field. When teachers feel supported and have more opportunity for collaboration, more say in important educational decisions, and greater flexibility in how they teach, and when they feel less isolated from their peers and more included as members of learning communities, they tend to be more committed to their jobs and more likely to stay in teaching (Hart & Murphy, 1990, Johnson, 1990, Sclan, 1993).

Some districts have created promising programs to support teachers and create supportive, professional environments. For example, New Haven Unified School District, a low-wealth district between Oakland and San Jose, California, has invested money, time, and resources in building a professional environment that focuses on student and teacher learning. Every week one morning is set aside for teachers to meet in collaborative teams and learn from one another. The district also gives teachers the time they need during the day to work with administration on curriculum, technology, assessments, student standards, and beginning teacher induction programs. New Haven Unified has found that its emphasis on high standards combined with student and teacher learning opportunities that include teacher internships and induction programs has given it exceptionally high teacher retention rates and, in a state where many districts find it hard to hire qualified teachers, an exceptionally competitive hiring process (Snyder, 1998).
Student Motivation and Discipline

Teachers who feel that student motivation and discipline are problems in their school are less likely to want to stay in teaching (NCES, 1997). Unfortunately, many teachers report such problems, and others report that they feel ill-prepared to effectively motivate or discipline students. Consequently, it is important to address these issues head on and find ways to prepare teachers to be partners in motivating students and discouraging discipline problems in order to encourage more teachers to remain in the field.

The state of California is trying to do just that. The School/Law Enforcement Partnership was formed by the state Department of Education and the Office of the Attorney General to provide leadership in promoting safe schools through interagency collaboration among social services catering to youth and families. The Partnership conducts regional workshops on safe school planning, distributes grants to hundred of schools to implement safe school plans, and has published a comprehensive “Planning Guide for Action” that shows schools how to form interagency partnerships and develop safe school plans.

Other types of interventions have also decreased the incidence of student violence. Several schools have had success with violence intervention programs that emphasize peer tutoring and stress management skills. Some schools have noted that school uniform policies, decreased class sizes, and smaller “schools within a school” have all resulted in reduced numbers of violent incidents. Others have found that physical changes in schools, such as increased lighting in parking lots and open, instead of closed, stairways have reduced violence and improved student discipline. Finally, some schools have implemented extended-day programs and comprehensive systems of clubs and other extracurricular activities that keep the school community engaged productively in meeting students’ academic, recreational, social, and psychological needs.

The Study Group believes that although it is not the responsibility of a state policymakers to implement one-size-fits-all programs and interventions to improve student motivation and discipline, state policymakers need to consider creating incentives to encourage schools and districts to effectively approach problems of student discipline. Policymakers also need to acknowledge that high-quality, targeted teacher preparation and professional development can give teachers the skills and knowledge they need to better motivate and discipline students. For
example, states can provide incentive grants for local interagency collaboration and can model collaboration with other agencies at the state level. States can also provide technical assistance in developing, implementing, and evaluating local programs in student discipline. Finally, states can produce voluntary standards for safe, healthy schools that schools can use to measure the effectiveness of their own programs.

**Salary**

Although less than five percent of public school teachers who actually leave the field do so because of money (NCES, 1997a), less than half of all teachers say they are satisfied with their salary. Even more troubling, less than 30 percent of teachers of color are satisfied, and the best paid teachers working in high-poverty schools earned 35 percent less than teachers in low-poverty schools.

Some states have made strides in improving the salaries of teachers, particularly teachers with needed experience and high-quality skills. For example, North Carolina recently increased teachers’ salaries by an average of 33 percent, which includes 12 percent increases in salary for teachers who obtain National Board Certification. The Study Group believes that, as is the case in North Carolina, state-supplied salary increases should be targeted to encourage teachers not only to stay in the field but also to continue to grow professionally across the course of their career. States may consider targeting state salary incentives to strategically recruit teachers to high-need schools and subjects, encourage teachers to achieve advanced certification, and motivate teachers to participate in professional development experiences.

**Out-of-field Teaching**

Improving teacher retention rates requires attention to out-of-field teaching placements, not only because students are more likely to receive high-quality instruction from a teacher who is properly qualified, but also because out-of-field teaching imposes stresses on teachers by placing them in jobs for which they are not qualified. Across the nation, less than 70 percent of districts require that all new hires hold full certification and hold at least a college minor in the field they are to teach. As a result, fifty-six percent of all high school students are taught by unqualified teachers in physical science, 27 percent are taught mathematics by an unqualified teacher, and 21 percent are taught English by teachers that lacked even a college minor in English (NCTAF, 1997). It should come as little surprise that teachers who lack even a minor in the field they are teaching are more than three times more prevalent in low-wealth schools than in those with high wealth.

Some states have responded to the need for qualified teachers in every classroom with inventive policies. For example, Missouri approved state salary reimbursements to districts only for their teachers who are qualified and licensed. States may consider requiring local districts to publicly report each class that is taught by a teacher who does not hold at least a minor in that field. States may also reconsider their current certification categories to ensure that they are not inordinately narrow and discounting well-qualified teachers in specific areas.

Where union agreements have allowed, some districts have successfully experimented with hiring qualified part-time teachers to cover classes where there is no full-time, fully-qualified teacher.

**Figure 3.**

**Out-of-Field Teaching Trends**

<table>
<thead>
<tr>
<th>Year</th>
<th>Mathematics</th>
<th>English</th>
<th>Science</th>
<th>Social Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1988</td>
<td></td>
<td></td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>1991</td>
<td></td>
<td>10</td>
<td>25</td>
<td>30</td>
</tr>
<tr>
<td>1994</td>
<td></td>
<td>15</td>
<td>35</td>
<td>40</td>
</tr>
</tbody>
</table>

available. The Study Group applauds district and teacher negotiators who have demonstrated their commitment to student learning by making qualified teachers their priority in every classroom. States may consider supporting inventive school staffing models such as these with policy guidance or targeted, reform-based grants.

Reciprocity across States

Of teachers who leave teaching, 35 percent do so because they move (NCES, 1997a). Furthermore, teachers who are willing to move from a “surplus” to a “shortage” state often find that doing so would mean a loss of seniority, decrease in wages, and sacrifice of their vested pension plan. Mobile teachers face obstacles in large part because state policies and programs continue to be based on the premise that teaching labor markets are local, even though the growing movement is toward universalizing teacher recruitment through systems of nationally recognized standards.

The Study Group believes that one of the largest obstacles in teacher reciprocity is the extent to which states continue to evaluate and license teachers based upon “inputs” (such as content knowledge, college courses, and degrees) rather than “outcomes” (teachers’ actual ability to bring students to high standards). Maintaining reciprocity as a factor of “inputs,” where states try to ensure that all incoming teachers have met certain college course and content knowledge requirements, is anathema to efforts in states to make sure practicing teachers are capable of performing well. In trying to measure performance as a precondition for licensure, some states have begun to recognize any teacher with National Board Certification as eligible for a state license, believing that National Board Certification is an acknowledged measure of good practice. The Study Group recommends that states begin to think creatively about ways to accept teachers across state boundaries for provisional licensure based upon the quality of their work, rather than the state in which they are licensed. Envisioning reciprocity decisions in this way requires states to implement performance-based evaluations, based on teacher standards, of out-of-state teachers in order to judge the quality of their work as a basis for full licensure.

Conclusion

States, in helping districts meet their need for teachers, should consider the important role that teacher retention has in sustaining a high-quality pool of potential teachers. Every year, states lose excellent teachers unnecessarily, for reasons that can be remedied with attention to the conditions under which teachers work. Evidence suggests that policies to build supportive school environments, build student motivation and improve discipline, reward excellent teachers with salary incentives, place teachers in teaching situations for which they are qualified, and welcome high-quality teachers to move freely across district and state boundaries without necessarily having to take additional courses could encourage promising individuals to stay, rather than flee, careers in teaching.
Policy Options: Retaining High-Quality Teachers

State options for creating school environments that attract and support high-quality teachers:

- **Voluntary working environment standards**—Establish voluntary guidelines that define professional standards for teachers. These standards may include criteria in areas such as teachers' professional development; materials and work space; planning and collaboration; class size; curricular and technological supports; involvement in school and district policy decisions; and professional growth opportunities. States may also provide technical assistance to districts who want, but find it difficult, to apply these voluntary professional standards.

- **Grants for innovative programs**—Provide limited grants to districts with promising programs to professionally support their teaching staff. These innovative programs should include comprehensive evaluation criteria so that the lessons learned from each program can inform the work of other districts.

- **Placing new teachers in good teaching situations**—Evidence is clear that new teachers are commonly placed in the most difficult teaching situations, often in classes with chronic discipline problems, in subject areas outside of the field of licensure, and in schools with the worst facilities and least resources. States may consider providing incentives for districts to place beginning teachers in less difficult teaching situations, where they are not as likely to “burn out” and are more likely to have opportunities to hone their skills rather than respond to constant crises.

State options for addressing issues of student motivation and discipline:

- **Voluntary standards for safe, healthy schools**—States may consider developing voluntary guidelines for safe schools and provide technical assistance to districts that choose to implement them.

- **Grants for interagency collaboration**—Many districts and some states have found that well-planned systems of interagency collaboration can improve schools and their communities. States may consider spearheading a state-wide program of interagency collaboration and providing technical assistance to districts that choose to implement programs of their own.

State options for making salaries an incentive to remain in teaching:

- **Salary equalization**—Based on the success of salary equalization programs in Connecticut and Kentucky, states may consider allocating funds to help low-wealth districts provide attractive compensation packages to teachers across the spectrum of experience and qualifications.

- **Salary related to advanced qualifications**—States can encourage teachers to study for advanced degrees, second licenses in high-need fields, or higher levels of certification (either defined by the state or by the NBPTS) by providing salary incentives for teachers who achieve high levels of education and demonstrate excellent performance.

State options for reducing out-of-field teaching:

- **Financial incentives**—Require districts to hire qualified teachers to receive salary reimbursements, or provide funds to help low-wealth districts train experienced teachers in high-need fields.

- **Reporting incentives**—Require districts to publicly report the percentage of teachers who do not hold a minor in their primary or secondary teaching field.
• **Grants and guidance for new models of school staffing**—In districts where union agreements permit, states may want to provide incentive grants or policy guidance for districts to experiment with new models of school staffing that include part-time teachers in high-need areas and/or business partnerships that train and place qualified individuals from other related professions in high-need subject areas on a part-time basis.

• **Reconsideration of certification categories**—In many states, individuals may be discouraged from teaching in a particular field because certification categories define their skills so narrowly that they are technically unlicensed in a field for which they are well-qualified. States may want to revisit their certification categories to see if some specific types of certification can be viably combined into larger teaching categories, providing more flexibility without compromising quality.

State options for improving interstate reciprocity:

• **Standards-based licensing**—Base state licensure upon teacher performance rather than upon state-specific university course requirements, so that high-quality teachers from any state are welcome to practice in schools across the country. This may require states to issue provisional licenses to applicants from other states and then evaluate these teachers with performance evaluations based upon state standards.
V. Educating Teachers for High Standards

States should create policies that extend teacher education beyond traditional university teacher preparation programs and facilitate a variety of high-quality ways in which teachers and teacher candidates can develop the knowledge and skills required to bring students to high standards. States should also consider various methods of teacher education, such as alternate routes to licensure and preparation programs beyond a bachelor’s, that may attract candidates to, rather than deter them from, careers in teaching.

Investing in high-quality teacher education makes sense, not only because it has been shown to have a significant impact on student achievement, but also because teachers who are well-prepared to enter classrooms are more likely to remain in teaching and more likely to meet consistently high standards in their practice.

Overall, high-quality teacher education matters. Across academic fields, teachers who are prepared and licensed in their discipline are more highly rated and are more successful with students than are teachers without preparation. Teachers with greater preparation in fields such as learning, child development, teaching methods, and curriculum are also more effective than teachers with less preparation (NCTAF, 1997). Not only does the amount of education teachers receive matter, but the content and structure of teachers’ educational experiences has been shown to make a difference in the way teachers perform in the classroom, particularly when teacher preparation includes clinical experiences that are carefully planned and combined with coursework on teaching and learning at the preservice level; comprehensive mentoring and rigorous evaluation systems at the induction level; and curriculum-focused, standards-based, on-going professional development opportunities across the careers of practicing teachers.

Building a standards-based system of teacher education frees states to think creatively about the various ways aspiring teachers can be assisted to meet the standards. As with student standards, how teachers develop competencies is much less important to standards-based policy than the fact that competencies are developed. Focused on results instead of processes, states are beginning to develop highly effective, innovative approaches to teacher preparation and development that sometimes look very different from the traditional ways teachers have learned their craft.

The Content and Format of Teacher Preparation

Traditional teacher preparation programs have been criticized in recent years for being out-of-touch with both the knowledge and skills teachers need to be effective in today’s classrooms. In the past, and to a large extent even today, aspiring teachers learn through lectures from professors who have not recently practiced in, or even visited, a K-12 classroom. Subject matter courses often are disconnected from courses on teaching methods, which themselves are disconnected from courses on learning and development. When they enter their own classrooms, teachers are often able to apply little of what they learned from isolated reading and lectures. Traditional undergraduate teacher preparation programs have also been criticized on a number of other grounds:

- They do not provide adequate time for candidates to learn subject matter, child development, learning theory, and effective teaching strategies;
- They assume a highly Eurocentric model of teaching, learning, and knowledge;
They segment important and systemic professional skills into separate courses;

They insulate subject-matter faculties in the arts and sciences from education professors;

They continue to view the work of teachers as undertaken in isolation rather than in teams; and

They concentrate on chalkboards and textbooks while ignoring electronic information sources.

Over the past few years, research has defined critical components of teacher preparation programs that educate effective teachers. Many of these elements require preparation programs to become almost the opposite of what they have been. For example, instead of segmenting knowledge and skills, theory and practice, effective programs are built upon a clear and pervasive vision of good teaching that is the foundation of all coursework and every clinical experience. Instead of spending cursory time on studying subject matter, child development, learning theory, cognition, motivation and effective teaching strategies, effective programs deliver a curriculum that includes substantial knowledge in all of these areas and requires students to apply the knowledge in practical experience. Effective preparation programs also:

- Place students in clinical experiences of at least 30 weeks that are combined with closely related coursework;
- Are based on clear standards that focus coursework and guide evaluation;
- Build upon common knowledge and beliefs among school and university faculty working in the program; and
- Make extensive use of portfolio and other types of performance assessments that require teacher candidates to apply knowledge to practice (NCTAF, 1998).

As a response to the need for new types of teacher preparation programs, teacher educators, in collaboration with states, districts, teachers, and others are developing various reform initiatives to help teachers develop the knowledge and skills states say they need to possess. In addition to alternate routes to teaching (see box on page 16), the most promising of these initiatives either increase the amount of schooling a teacher candidate must complete or increase the amount of hands-on experience teacher candidates have in schools, or both.

Teacher Preparation beyond a Bachelor’s

About 300 colleges and universities offer graduate teacher preparation programs. Of these programs, some begin in undergraduate school and provide a program of preparation that spans five years and in which candidates earn a bachelor’s degree in a subject discipline and a master’s degree in education. Other preparation programs that extend beyond a bachelor’s are one- to two-year programs for college graduates from any field. These programs commonly enable students to concentrate exclusively on teacher education, and most include a component of extended practice in schools taking 30 weeks or more that is closely tied to program coursework. Furthermore, since graduate preparation programs are often offered on urban campuses, the extended experiences teacher candidates have are largely in urban schools with diverse student populations.

“Teacher education has been woefully traditional and almost 100% Eurocentric. The assumptions of most coursework is that the student will be Caucasian, middle-income, and economically stable. The courses, the experiences, the readings, and the laboratory assignments have been primarily without context and devoid of the richness of cultural/racial/ethnic diversity. Consequently, new teachers enter public education with little or no historical, sociological, or psychological competency regarding the culturally different.”

Because of their emphasis on practice in schools, graduate teacher preparation programs have been innovators in performance assessments that require teacher candidates to demonstrate good practice and think reflectively about the relationship between theory and experience. Finally, graduate programs are not only promising because of their amenability to components of high-quality preparation, but also because they commonly attract nontraditional teacher candidates that include recent college graduates, older entrants that have already established themselves in other careers, military retirees, and people of color.

Several studies have shown that graduates of preparation programs that extend beyond a bachelor’s are rated by principals and their peers as better prepared and more effective than graduates of four-year preparation programs and often are as confident and as effective as senior teaching colleagues (Darling-Hammond, 1998). Furthermore, the entry and retention rates of teachers coming out of graduate programs are often higher than those from traditional four-year programs. Finally, the student enrollments of most graduate teacher preparation programs are more diverse than those of undergraduate programs, perhaps in part because many graduate programs are located on urban campuses, have been aggressive about diverse recruitment, and provide substantial financial aid.

Programs with Extensive “Hands-On” Experience in Schools

When aspiring teachers embark upon their “student teaching” experience, they usually find there is a lack of meaningful collaboration between their elementary/secondary school and their teacher preparation institution. Not only is “student teaching” often separate from campus-based teacher preparation experiences, but in some instances it is extremely truncated, lasting no longer than eight weeks. Aspiring teachers also find that their student teaching experience may include working with cooperating teachers who were chosen due to their availability more than their quality. In contrast, some public schools and teacher preparation institutions have been developing promising ways to work collaboratively across the span of a teacher’s preparation program and create a continuum of high-quality theoretical and “hands-on” experiences for individuals preparing to teach.

One promising development in this area is the advent of professional development schools (PDSS), K-12 schools where teachers and administrators work alongside university faculty and teacher preparation students to influence the development of their profession, to increase the professional relevance of their work, and to undertake mutual deliberation on issues of student learning. School and university faculty share teaching responsibilities, collaborate on research concerning educational practice, and cooperatively supervise prospective teachers and administrators (Holmes Group, 1986). Based upon the model of teaching hospitals in the medical profession, PDSS focus on providing professional development for both new and experienced teachers as well as developing research about teaching. Although PDSS are new innovations, and therefore there is little research evidence concerning their effectiveness, preliminary results suggest that PDSS may be effective ways to simultaneously reform public schools and teacher preparation. Currently, the status of PDSS can only be described as very active. For example, the state of Maryland is launching 240 PDSS and will require all preparing teachers to complete a one-year internship there.

Another innovation in providing teacher candidates with extended experience in schools are district-based preparation programs. In larger cities such as Dallas, Houston, New York City, and Los Angeles, school administrators have found that by recruiting teacher candidates locally, training teacher candidates with district staff, as well as through partnerships with local colleges, and providing teacher candidates with extensive experiences in district schools, they can produce well-qualified teachers who are more likely to teach in urban schools and less likely to leave the profession. In many district-based preparation
programs, teacher candidates spend most of their course of study working in local public schools, often receiving a stipend for their school-based work.

The Study Group believes that states should welcome innovations in teacher preparation programs, both in terms of content and structure. Evidence is clear that there are methods of preparing teachers that may be more effective than the traditional model of an undergraduate degree followed by a semester or less of student teaching. Recognizing that not every innovation is sure to succeed, however, the study group recommends that innovations be accompanied by rigorous evaluations of new models.

**Teacher Induction Programs**

Even with extensive pre-service teacher preparation, the beginning years of teaching present many challenges that reflect a “steep learning curve” (Darling-Hammond, 1998). New teachers are typically given the most difficult assignments and often are left to flounder without the kind of help provided by internships or “entry level” positions in other professions.

Not surprisingly, the attrition rate for beginning teachers is high; as many as 30 percent of teachers leave the profession in the first five years, a figure which is even greater in urban districts. It is little wonder that some observers have dubbed teaching as “the profession that eats its young” (Halford, 1998).

Recognizing that these problems exist, many districts, states, and teacher preparation institutions are attempting to build stronger linkages from pre-service preparation to the early years of teaching and have developed induction programs to support new teachers that include mentorships, formative performance evaluation, or other teacher support mechanisms.

The National Association of State Directors of Teacher Education and Certification (NASDTEC) has identified seven essential components of a beginning teacher support system that include:

- A focus on beginning teachers—with attention also given to school and systemic improvement;
- Mentor teachers to work with beginning teachers throughout the year;
- A training component for mentor teachers or support teams;
- An in-service program based on needs determined by both the beginning and mentor teachers;
- Additional funding from the state or district that is earmarked for supporting new teachers;
- A process to assess new teachers; and
- A process to evaluate the effectiveness of the support system and to determine needed changes.

The Study Group believes it is important to add four components to this list.

- First, all induction programs should be based on clearly articulated, rigorous standards that are aligned with teacher and student standards. These standards should form the basis for comprehensive evaluation, not only of beginning teachers, but of the induction system itself.
- Second, all induction programs should include every beginning teacher in the state. In order to be taken seriously, standards need to be applied uniformly. Induction programs that apply rigorous standards to the work of beginning teachers need to be applied evenly across the state, or teacher quality becomes localized and standards become meaningless.
- Third, the selection criteria, roles, and functions of mentors, defined in terms of standards, should be clearly articulated, both to mentors and to beginning teachers, and mechanisms should be in place to ensure that mentors meet these standards. Currently,
there is rarely consensus on the roles and functions of mentors, which makes the quality of teacher induction experiences vary and “standards” hard to apply, since mentoring experiences are “unstandardized.”

• Finally, **teacher induction programs should include performance assessments** that hold beginning teachers accountable to knowledge and performance standards and provide them with ongoing formative feedback to help improve their practice throughout their induction experience.

In 1991, 31 states had beginning teacher supports that complied with NASDTEC’s seven components; twenty-two states had implemented a support system with state funding, while six implemented a system without such funding. But only 18 states included all beginning teachers in the program.

Induction programs are becoming increasingly popular. Among teachers with less than five years of experience, 55 percent experienced some kind of formal induction program during their first year of teaching. By contrast, only 16 to 17 percent of teachers with more than 10 years of experience had such help when they entered the profession. **The Study Group believes that new teacher induction programs should be in place in every state and be adequately funded with state resources.** Evidence concerning induction programs is clear: when well conceived, adequately funded, rigorously maintained and thoroughly evaluated, induction programs raise standards among new teachers, provide effective professional development for beginning and experienced teachers, and lower attrition rates. Induction programs make good state investments.

**Professional Development**

Professional development, when done well, can significantly increase student learning and improve teaching practice. High-quality professional development is also an effective way to make sure teachers have skills and knowledge they need to respond to new requirements for students and new knowledge in teaching and learning. **But high-quality professional development doesn’t come easily; on the contrary, effective professional development needs to be carefully crafted to include several or all of these critical elements** (adapted from Sparks, 1995; Abdal-Haqq, 1996):

• Is rigorous and ongoing, rather than consisting of simply a one-time workshop;
• has as its primary goal improving student learning, and is evaluated at least in part according to its ability to meet this goal;
• includes training, practice, feedback, opportunities for reflection and group inquiry, and coaching or other follow-up procedures;
• Is school-based, embedded in teacher work, and based upon a clear vision for students;
• Is collaborative, providing opportunities for teachers to interact with peers;
• Encourages school-based and teacher initiatives;
• Is rooted in the knowledge bases for teaching, subject matter, and student needs;
• Is an important part of the normal school day;
The reality is that most professional development programs do not incorporate these criteria. Generally, professional development activities are not curriculum-based, there are few follow-up activities to help teachers use newly learned practices in their classrooms; teachers rarely lead professional development, and professional development activities are virtually never evaluated on how effectively they change teacher practice or improve student outcomes. Moreover, links between the content of professional development programs and teachers’ needs are weak, as are links between one professional development activity and the next, between professional development and supervision, and between teachers’ work assignments and the professional development courses they take (CPRE, 1996-1997). Finally, the content and method of delivery of most professional development rarely takes into account that some of the most effective professional development occurs in collegial discussions of actual student work rather than via externally delivered programs. As a result, professional development rarely has the positive effect that it could on teacher practice or student achievement.

The Study Group asserts that in order to meet their commitment to provide every student with the tools they need to meet high standards, states must begin to ensure the quality and quantity of professional development available to their teachers. Some states have demonstrated an interest in professional development by setting aside funds (or requiring districts to do so) to ensure that adequate resources are invested in developing teachers. While the Study Group commends states for ensuring consistent funding, it believes that states need to think beyond funding to develop quality and evaluation criteria for professional development programs to ensure that all teachers receive the professional support they need to implement standards. A few states have thought creatively about ways to encourage teacher participation in high-quality professional development.

- In response to the consistent research finding that sustained, on-going professional development programs are more effective than one time workshops, Arkansas passed legislation that requires districts to provide a minimum of 200 minutes of scheduled time each week for conferences and instructional planning. The state hopes that having weekly time set aside will help schools build professional development from one week to the next that is sustained and related.
- Maine has developed regional coalitions of school improvement teams and school-university partnerships to stimulate school-based change and encourage appropriate professional development.
- California has created subject-matter collaboratives to provide professional development based upon the state’s curriculum frameworks.
- As an innovative professional development activity that involves teachers statewide, Vermont encourages teachers to work with others in developing and scoring student portfolio assessments.
- In recent years, Kentucky has had the most widespread professional development opportunities of any state. In 1994, more than 70 percent of teachers in that state reported that they had pursued professional development opportunities regarding the uses of technology, teaching methods, student assessment, and cooperative learning. Kentucky teachers also were more likely than most others to say
“Although there is much to be done, signs suggest that significant changes are occurring in how professional development is being conceived. The changes are:

- From individual development to individual development and organizational development.
- From fragmented, piecemeal improvement efforts to those driven by a clear, coherent strategic plan for the district, school, and the departments that serve schools.
- From district-focused to school-focused approaches.
- From a focus on adult needs to a focus on student needs and learning outcomes.
- From training that one attends away from the job to multiple forms of job-embedded learning.
- From an orientation toward the transmission of knowledge and skills to teachers by “experts” to the study by teachers of the teaching and learning processes.
- From a focus on generic instructional skills to a combination of generic and content-specific skills.
- From staff developers who function as trainers to those who provide consultation, planning, and facilitation services, as well as training.
- From staff development provided by one or two departments to staff development as a critical function performed by all administrators and teacher leaders.
- From teachers as the primary recipients of staff development to continuous improvement in performance for everyone who affects student learning.
- From staff development as a “frill” to staff development as an essential and indispensable process without which schools cannot hope to prepare young people for citizenship and productive employment.”

that the professional development changed their practice. Kentucky is also experimenting with ways to evaluate professional development programs in terms of their effect on student outcomes.

Conclusion

Evidence is clear that investing in teacher preparation, induction and professional development can be effective at decreasing new teacher attrition and improving teacher quality. As part of a standards-based system, effective teacher education may embed a focus on results across teachers’ careers. It also frees states to think creatively about how teachers can best learn and approach with flexibility the process of teacher learning within a rigid framework of high-standards by which results can be judged.
Policy Options

Reforming the Content and Format of Teacher Preparation

State options to improve the content and format of teacher preparation:

- Make certain that approved preparation programs have rigorous admission and program standards and that these standards are consistently applied.
- Ensure that pre-service preparation is targeted to meet supply needs and that it provides beginning teachers with the knowledge and skills needed to help their students reach state standards.
- Examine ways to prepare teachers outside of universities.
- Require college and university-based teacher educators to work more closely with the entire college or university—including with the presidents who make key funding and organizational decisions.
- Encourage fifth-year and graduate programs to provide more time for extended clinical experience in schools and require teachers to earn an undergraduate degree in an academic discipline outside of education.
- Require individuals in teacher preparation programs to have clinical experiences of 30 weeks or more.
- Support research to assess the effectiveness of innovative teacher preparation programs in producing and retaining quality teachers.

Teacher Induction Programs

State options for ensuring high-quality mentors:

- Establish clear, rigorous standards—Mentors need to know what is expected of them. Establishing clear standards is one way to communicate expectations about what a mentor should know and be able to do, as well as what a mentor should expect from beginning teachers.
- Mandatory training—Mentors will learn what is expected of them only if they receive rigorous training in the roles and responsibilities of their position. States should consider establishing rigorous, standardized training for beginning teacher mentors.
- Envision mentorship as professional development—When properly designed, good induction programs not only benefit beginning teachers but can also be excellent professional development for mentor teachers, as they examine practice and communicate about the components of good teaching. States may consider building professional development components into the roles and responsibilities of mentors.

State options for assuring program quality:

- Establish standards, and evaluate according to them—Beginning teachers need to know what is expected of them—that is they need to know the standards for which they are being held accountable. To be most effective, states may consider ways that beginning teachers can be evaluated, and evaluate themselves, according to standards.
- Base on best-practice research—There are a variety of beginning teacher induction programs that
have proven successful. States may consider adopting the best practices of existing programs and combining them with particular state needs to form a unique induction program that is likely to succeed.

State options for assuring equity:

- **Include all beginning teachers**—Standards for beginning teachers can only have meaning if they are consistently applied across the state. As a result, states should include all beginning teachers in standards-based teacher induction programs.

- **Make state funds available**—Left to local resources, the ability of districts to participate in an induction program and the quality of their participation will vary according to local priorities and resources. States that take seriously their responsibility to ensure that all teachers have the resources and opportunities they need to do their job well may consider funding teacher induction programs centrally.

- **Evaluate**—State programs and policies always have the potential to affect different communities, or individuals from different racial/ethnic or cultural backgrounds, in different ways. In order to ensure that a teacher induction program serves the needs of every teacher, in every professional circumstance, states should consider undertaking targeted program evaluation.

**Teacher Professional Development**

State options for improving the quality of professional development:

- Establish evaluation measures to judge professional development programs by their ability to directly improve teacher knowledge and skills and student learning.

- Evaluate and review state policies concerning professional development to determine how they affect local decisions about professional development and program quality.

- Recognize the value of informal learning through activities like serving on curriculum committees, serving as assessors for state and local assessment programs, and working as new teacher mentors.

- Recognize that teachers often learn best from other teachers, and encourage teachers to be involved in every aspect of program design and implementation.

- Teachers’ unions, subject-matter organizations and other professional associations can frequently offer excellent professional development programs. States may want to consider new partnerships in developing and disseminating good professional development.

State options for making access to professional development more equitable:

- State policymakers are increasingly aware that local districts have varying capacity to provide effective professional development. States may consider providing assistance for districts to change their approaches to professional development.

- Local districts also have different capacities to fund professional development. States may want to consider ways of allocating resources that ensure all districts can afford top-quality professional development for their staff.
VI. Teacher Licensure and Recognition of Accomplished Practice

States should create policies that hold individuals to knowledge and performance standards, more than rigid course and degree requirements, in order to receive and retain a license to teach. These standards should be applied for every teaching credential issued by the state, to both novice and experienced teachers, regardless of short-term needs for individuals to fill vacant classrooms. Furthermore, states should devise mechanisms to encourage experienced teachers to develop their skills beyond those levels required for initial licensure.

Teacher licensure represents a state’s legal responsibility to guarantee to the public that individuals admitted to practice meet minimum requirements, while those not qualified to be teachers are screened out by the licensure process. But in practice, licensure processes in many states require teachers to demonstrate intellectual capacity on basic skills tests that is far below what most experts agree is required to be an effective teacher. Some licenses are issued to teachers for life and require no demonstration of capacity to teach from the moment the license is issued. In other cases, teachers are able to continuously renew their licenses by taking a number of continuing education classes, many of which have little or no relation to improving actual classroom practice.

There is a consensus forming among researchers and policymakers that a key component of ensuring that all teachers are of high quality is redesigning licensure systems so they are able to guarantee that those admitted to practice are effective. There is also general agreement that while sound licensure systems can ensure that all teachers meet minimum standards, an incentive system that encourages teachers to extend their capabilities beyond minimum licensure requirements can be an effective way to develop exceptional teacher leaders. The Study Group believes that state boards of education need to have a vision of high-quality teaching that clearly articulates what teachers need to know and be able to do. This vision becomes a yardstick by which all licensure requirements and incentives for accomplished practice are measured and by which states can guide their oversight function.

Initial Licensure

Traditionally, candidates to become licensed teachers have been measured according to three primary criteria: the possession of a degree from an approved college or university, the completion of an approved program of teacher preparation including several weeks of student teaching, and, more recently, satisfactory scores on a written test of pedagogical, subject-specific, and general knowledge.

These traditional criteria for initial teacher licensure have been criticized on several fronts:

- Initial licensure requirements that emphasize college courses, grades, and written test results do not take into account teachers’ skills in teaching. Evidence is clear that knowing facts is very different from doing a good job, and so licensing teachers based on their knowledge cannot guarantee their quality performance in the classroom.

- Traditional licensure requires every teacher candidate to complete virtually the same preparation process, regardless of differences in pre-existing knowledge or related life experience that may give some teacher candidates teaching competencies prior to entering teacher preparation programs. Basing licensure on coursework rather than upon
demonstrated competencies may impose unnecessary hurdles on qualified candidates.

- In several states, teacher licensure tests consist of minimum competency measures rather than measures of advanced knowledge and skills; therefore, these tests cannot guarantee high quality among teachers.
- Traditional licensure often allowed an individual to teach for life. Current thinking asserts that even excellent teachers need to refine their skills regularly. Consequently, permanent licensure cannot ensure that experienced teachers build their knowledge and skills and place them in line with new thinking, new practice, and new expectations for students.
- Traditional criteria for licensure have often been waived at times of teacher shortages, making the concept of "ensuring minimum requirements" for teaching highly relative and demeaning the purpose of state licensure.

In other words, the routes to initial licensure that states have depended upon for decades are antithetical to a results-based system of high-quality standards. Indeed, we know that measuring an individual in terms of college degrees and course requirements hasn't produced teachers of consistent quality, and this has been problematic for teachers, who want to be perceived as professionals, for states, who want their licensure process to have meaning, and for communities, who want to know that their teachers can consistently teach well. It is also becoming clear, in large part from the popularity of alternate routes to licensure, that many promising individuals see traditional licensure requirements as a deterrent to entering teaching.

Under a standards system, it is insufficient for prospective teachers to pass a certain number of university courses (which can vary widely in quality and content) in order to be licensed. Nor does a written test serve as the sole gauge of a teacher's fitness. Rather, prospective teachers need to prove they have necessary knowledge and can apply that knowledge appropriately in real-life circumstances in schools, which is best measured using multiple lines of evidence over time.

States that have developed standards-based initial licensure have found they need to rethink the ways they evaluate initial teacher candidates. Besides transcript evaluation and written tests, states are beginning to require teacher candidates to demonstrate skills through portfolio assessments, mentorship programs, comprehensive observations, and self-evaluation. States that have implemented these methods of evaluation as one component of initial licensure have found that they can more reasonably measure teacher effectiveness when the teacher's practice is continuously evaluated rather than just evaluating the teacher's knowledge. Furthermore, states have found that implementing standards-based performance assessments creates an environment where standards are infused in teachers' discussion of their work, where teachers learn to measure their practice in terms of standards, and where teachers develop the habit of measuring their own success in terms of the success of their students.

Finally, states have found that including teacher performance as a measure for initial licensure helps states: 1) demonstrate with certainty that every beginning teacher licensed by the state is of high quality; 2) increase their public credibility at the same time they improve teacher quality and student outcomes; and 3) positively impact the content and rigor of teacher preparation programs. In other words, setting standards and making them stick by implementing meaningful measurement criteria makes the state more than purely a regulatory body; it places the state in a position of setting and maintaining a vision of excellent teaching and learning across the spectrum of schooling.

Connecticut, for example, has devised a system of beginning educator support and training (BEST) that requires beginning teachers to complete a portfolio and a series of teaching observations, in close collaboration with an experienced teacher mentor, that demonstrates they have met
or exceeded minimum performance standards in order to receive a license. The state has found that requiring new teachers to examine their own practice in reference to state standards has increased the quality and stability of newly licensed teachers while simultaneously making teaching a more desirable and competitive career within the state overall. Other states as well have found that the process of initial licensure gains more meaning, more credibility, and more consistency when it is tied to a set of clearly articulated expectations for the performance of beginning teachers and to accurate measurements of those expectations.

Finally, the Study Group believes it is important to address “emergency licensure,” a quick-reaction to teacher shortages whereby a state suspends teacher licensure requirements to rapidly get individuals, regardless of background or training, into classrooms. The Study Group is opposed to all forms of emergency licensure, which it believes degrades the profession of teaching and makes the establishment of rigorous, high standards irrelevant. While the Study Group concedes that it may rarely be necessary to staff classes with individuals who cannot meet state teacher standards, these individuals should not be licensed. Furthermore, the study group believes that careful, long-term policymaking can often make hiring unlicensed teachers unnecessary: for example, states that pass widesweeping class size reduction policies, a common reason for sudden teacher shortages in elementary schools, need to simultaneously build policies to attract sufficient teachers and place the implementation of class-size reduction on a timeline that realistically allows qualified teachers to be put into place.

Continuing Licensure and Recognition of Accomplished Teaching Practice

Besides ensuring that all beginning teachers possess knowledge and skills to bring students to high standards, states are also beginning to think of creative ways to encourage teachers to develop their knowledge and skills across their careers. As a first step, most states have done away with “permanent licenses” and require teachers to demonstrate continuing education credits for licensure renewal on a periodic basis. While the study group applauds the departure from permanent licensure, it believes that states need to go beyond “input” measures such as continuing education credits to ensure that established teachers continue to demonstrate in their practice the outcomes embodied in state teacher performance standards.

Two promising developments exist in states that envision “learning to teach” as a career-long process rather than an event culminating in completion of a preparation program or receipt of an initial license. First, several states have established standards for advanced teaching practice that often correspond with new categories of licensure, salary differentiation based upon accomplishment, and higher levels of professional responsibility for highly accomplished teachers. Second, some states have created supports and incentives for teachers to pursue “national certification,” a system for evaluating teachers’ knowledge and practice according to rigorous, national criteria. The Study Group believes that envisioning gradations of teacher accomplishment as a component of the state’s formal system of professional recognition creates new expectations and incentives for teachers to continue as learners throughout the course of their careers. As a result, the Study Group encourages states to establish and evaluate systems of standards-based continuing licensure and other methods of recognizing and rewarding excellent teaching.

State incentives for accomplished teaching

Over the last decade, individual states have devised a variety of ways to measure and reward accomplished teachers. Some of the most popular and effective programs to date have included career ladder programs and systems of advanced certification.

Several states have experimented with “career ladder” programs that attach pay incentives to demonstrated performance among teachers rather
progress according to defined, objective criteria; and accept greater instructional responsibilities. In the most extensive evaluation of a career ladder ever undertaken in the U.S., Arizona found that their program could be credited with increasing student achievement, lowering dropout rates, increasing teacher satisfaction, and increasing graduation rates. Several other states have come to similar conclusions: providing incentives for teachers to become accomplished raises the level of teaching and improves student outcomes.

States have also begun to experiment with differentiated categories of licensure that recognize teachers for accomplished performance. In North Carolina, the Excellent School Act of 1997 established a system of rewarding teachers for higher standards by creating a three-tiered system of teacher licensure and renumeration that is tied to teacher results on rigorous state performance assessments. Ohio is also linking teachers’ continuing licensure to their achievement on state performance assessments. Although licensure differentiation has yet to be evaluated in terms of its effect on teacher performance or student outcomes, states that are establishing criteria and measurements for standards-based licensure hope that it will serve as an incentive for motivated teachers to become even more accomplished.

Certification

Although “certification” has often been used as a synonym for “licensure,” states and professional groups are beginning to discriminate between the two in much the same way other fields have. In general, “licensure” refers to the state acting on its authority to ensure that a practitioner has the necessary knowledge and skills to practice as a teacher without jeopardizing students, communities, or schools. “Certification,” on the other hand, is largely a function of the profession itself acknowledging those who demonstrate advanced capabilities.

The distinction between certification and licensure has become more evident with the creation of the National Board for Professional Teacher Education Program Approval
Teaching Standards (NBPTS). Governed by a 63-member board of directors, the majority of whom are classroom teachers, the NBPTS has established high, rigorous standards for what accomplished teachers should know and be able to do and operates a national voluntary system of performance assessments to evaluate experienced teachers. Teachers who successfully demonstrate accomplished practice through National Board measures receive a prestigious certification of advanced practice awarded by the Board. NBPTS certification is not considered an alternative to licensure, but rather is regarded as a highly advanced voluntary recognition of accomplishment and distinction among teachers. In 1996, 19 states provided one or more incentives for teachers to pursue National Board Certification, including linking Certification to license portability, renewal or status; reimbursing teachers for fees associated with taking National Board assessments; or financially rewarding Board Certified teachers.

Although the standards and assessments created by the NBPTS are based on the best available research in teaching and learning, the results of the national certification assessment have not yet been evaluated sufficiently to attest to the fact that the test is fair and valid. This does not mean that states should resist participating in this promising experiment. On the contrary, the Study Group believes that the standards and evaluations of the NBPTS warrant support and continued research. However, states deciding to participate in these early years of national certification should understand that the assessments, and the standards on which they are predicated, may change as knowledge about excellent teaching and evaluation methods is refined. As with any other new initiative to improve the supply of high-quality teachers, the results of NBPTS participation should be continuously evaluated.

Whether or not states decide to adopt the NBPTS certification system or not, the Study Group believes that every education policymaker should be informed about the ground-breaking work of NBPTS. The Study Group advocates offering accomplished teachers the chance to receive advanced certification, whether via NBPTS or some other state-developed measure, for several reasons:

- Certification provides a system of promotion that recognizes and rewards excellent teaching;
- Certification requires states to forge agreements about what constitutes exceptional teaching practice; and
- Certification allows teachers the important professional opportunity to develop criteria for judging excellence in their field.
- Certification solves teacher mobility issues, as national standards are shared across state boundaries.

Conclusion

Teacher licensing and certification policies are changing as a number of states are attempting to hold teachers to high standards through new knowledge and performance requirements and mandated assessments. The most significant changes taking place are: 1) the increasing interest in performance-based teacher licensing and certification in which prospective teachers are required to demonstrate high-level standards that define the knowledge and skills that teachers need to help students succeed; and 2) efforts to build incentives, either tied to continuing licensure or independently, that encourage teachers to demonstrate exceptional skill rather than minimum standards of practice. The Study Group encourages states to rigorously apply standards to their licensure process while considering ways to encourage teachers to achieve beyond minimum standards.
Policy Options: Teacher Licensure and Certification

State options for improving the quality of licensed teachers:

- Build licensure programs that require teachers to demonstrate progressive knowledge and skills that help students achieve high standards.
- Tie program approval standards to K-12 standards, using program approval standards as leverage to make certain that teacher education programs are producing the number and types of teachers needed, and making quality and performance of graduates important indicators of program approval.
- Supporting rigorous, standards-based routes to teaching that provide candidates with alternatives to traditional preparation programs, e.g., district-based programs or those that take account of work experiences.
- Become familiar with INTASC standards for beginning teachers that emphasize teaching performance and student achievement.
- Refuse to issue “emergency licenses,” which degrade the meaning of teacher “licensure” and systematically undermine all standards.

State options for using licensure and certification as incentives, rather than deterrents, to becoming a teacher:

- Streamline the number of licenses available, since some states have compartmentalized teaching so that it is difficult to get a teacher to fill every position. (Myriad credentials may make it difficult for teachers to move from state to state.)
- Build performance-based licensure criteria that are based on the quality of teaching and the ability of a teacher to help students meet standards rather than only textbook knowledge and university experience.
- Make the licensure process as streamlined as possible, without sacrificing quality or security, so that qualified teachers can get into the classroom more rapidly.
- Consider developing or adopting criteria for advanced certification for excellent teachers and providing incentives for experienced teachers to pursue advanced certification.
Appendix A. Evaluation and Program Improvement

Standards-based teacher development systems are costly, not only in financial terms but also in terms of educators’ efforts and future careers of teachers and the students they teach. If policymakers expect the public to support these costs, they must ensure that the teacher development system is effective, efficient and equitable. This means that state boards need to implement responsive program planning, pay attention to the implementation processes across the system, ensure that individuals and institutions have the necessary materials to carry out their particular missions and check to ensure that program intentions are realized in program outcomes. Answering these questions requires a mechanism for program evaluation.

Unfortunately, the norm today is that systematic evaluation of a state’s teacher development system rarely takes place unless there is overwhelming public or political pressure to do so. This is a mistake that can cost states dearly in terms of accuracy, usefulness of their data, efficiency of their teacher development program, fairness to teachers, students and schools, and credibility and public support. State boards of education need to hold themselves and the state education department accountable for both understanding the effects of a teacher development system and ensuring its success. Because evaluation can greatly improve policy, policymakers need to consider program evaluation alongside policy development. Doing so requires attention to several factors:

Participation. In order to make evaluations more valid and reliable, state boards need to give special attention to ensure that those impacted by the results of any teacher development policy are invited to participate in the design of the program evaluation and in the evaluation itself.

Internal vs External Evaluators. Deciding whether to have department staff conduct an evaluation or contract an external evaluator has many implications for the evaluation itself. Assessments undertaken by department staff are usually faster and cheaper, but external evaluations may be more objective and further removed from any politics surrounding the teacher development system.

Communications. Effective program evaluation provides information that can be shared with the public and interested constituents in order to encourage dialogue. On the other hand, when an evaluation points out a need for program improvement, a wide range of special-interest groups may try to co-opt the results for their agenda. To balance this, the state board needs to ensure that a communications plan is in place to help guide public conversation in constructive ways.

Using Results. Before undertaking program evaluation, policymakers must be confident that they have the money, resources and momentum at their disposal to respond to the results effectively and make necessary program changes. Authorizing an evaluation and then neglecting to respond to its conclusions is not only a waste of time, money and resources, but it can jeopardize the public credibility of both the teacher development system and of teachers themselves.

Types of Evaluation. Several different types of evaluation can inform program improvement at different stages of implementation.

- Development evaluation consists of doing needs assessments and research reviews to define the problems a particular teacher development program needs to resolve;
- Design evaluation judges program design, usually before implementation, and clarifies program logic and feasibility.
- Process evaluation studies the implementation of the teacher development system and often looks for intended and unintended consequences of the system;
- Management evaluation looks for efficiencies and inefficiencies in how the teacher development system is managed; and
- Impact evaluation takes place after a teacher development system has been operating for several years and examines the system in relation to its long-term objectives.

Appendix B. Placing the Work of Every State in a National Context

Although it is important for states to work within their borders to ensure that every district has high-quality teachers in every classroom, it is important for states to work across borders to raise the quality of teaching and learning. Consider that:

• Students flow daily from one state to another, and so the quality of student learning in one state is directly related to quality in others;
• Teachers often seek jobs in states where they did not receive their initial license. Coming to general understandings across borders about what teachers need to know and do regardless of the state system in which they work or received their education helps districts hire from among a national pool of teachers to fill shortages and recruit high-quality; and
• States often want to know how their teacher standards compare to neighboring states or states with similar demographics. Applying national measures of teacher performance to state-wide pools provides data that can be meaningfully compared across state borders.

Fundamentally, the extent to which teacher and student standards are similarly articulated across states affects the extent to which teachers and students from one state will be able to constructively contribute in another state and the extent to which qualitative comparisons can be made across state borders.

The good news is that states that want to meaningfully participate in national dialogues about standards have mechanisms through which to do so. Several national initiatives are forwarding the cause of teacher recruitment, quality, and retention, as well as articulating what teachers should help students know and be able to do.

States can benefit from working with one another on such national projects that build common understandings and encourage national dialogue about what constitutes good teaching and learning.

The National Council for Accreditation of Teacher Education conducts national accreditation of teacher preparation institutions. Based upon a set of standards developed by the Council in concert with member states, almost two-thirds of all teacher candidates receive their education at institutions that are NCATE accredited. States that require NCATE accreditation for teacher preparation institutions have found that their affiliation helps them assure the public and prospective students that the institution has met rigorous external standards; it also helps institutions improve the quality of classes they offer as they modify requirements to reflect changes in knowledge and practice; NCATE accreditation is also a useful mechanism to strengthen institutional self-evaluation and spur program improvement.

Interstate New Teacher Assessment and Support Consortium is comprised of state education agencies, higher education institutions, and national educational organizations, including NASBE, which are dedicated to reform in the education, licensing, and on-going professional development of teachers. INTASC provides a vehicle for states to jointly formulate model policy to reform teacher preparation and licensing, and a mechanism for states to collaborate on projects such as new performance assessments of classroom performance. INTASC has developed model standards for beginning teacher licensure that are compatible with those of the NBPTS. The core standards serve as a framework for systemic reform of teacher preparation and professional development. Subject-specific licensing standards have also been produced in mathematics, English/language arts, and science. Work is in progress for standards in elementary education, social studies, special education and, more recently, arts education.
The National Board for Professional Teaching Standards has established high and rigorous standards for what accomplished teachers should know and be able to do and operates a national voluntary system to assess and certify teachers according to these standards.

The NBPTS (1992) policy position is based on five core propositions:

- Teachers are committed to students and their learning.
- Teachers know the subjects they teach and how to teach those subjects to students.
- Teachers are responsible for managing and monitoring student learning.
- Teachers think systemically about their practice and learn from experience.
- Teachers are members of learning communities.

The National Association of State Directors of Teacher Education and Certification, a membership association of which most states are members, has been developing standards for more than 20 years in the areas of teacher preparation and licensure. In addition to standards, NASDTEC has provided leadership in interstate license reciprocity. The Interstate Certification Compact (ICC), originally designed in the late 1960s, is now an important part of NASDTEC although it is governed by its own state representatives. Through the ICC, a central data base has been developed on individuals whose licenses have been denied or revoked in member states.

The Interstate School Leaders Licensure Consortium has developed model standards for school leaders. Based on research on productive educational leadership and the wisdom of practitioners, the standards were drafted by personnel from 24 state education agencies and representatives from various professional associations. The standards present a core of knowledge, dispositions, and performances that link leadership directly to productive schools and enhanced educational outcomes. The standards were designed to be compatible with the NCATE guidelines for school administrators as well as with the major national reports on “reinventing leadership for tomorrow’s schools.” Briefly, the standards focus on:

1) facilitating the development, articulation, implementation, and stewardship of a vision of leading that is shared and supported by the school community;

2) advocating, nurturing, and sustaining a school culture and instructional program conducive to student learning and staff professional growth;

3) ensuring management of the organization, and resources for a safe, efficient, and effective learning environment;

4) collaborating with families and community members, responding to diverse community interests and needs, and mobilizing community resources;

5) acting with integrity, fairness, and in an ethical manner; and

6) understanding, responding to, and influencing the larger political, social, economic, legal, and cultural context.

Subject areas standards. In addition to these professional standards, a number of organizations have developed subject-specific standards that in several states define the subject-specific content of teacher and student standards. Standards have been developed in subjects as diverse as mathematics, history, science, social studies, English/language arts, arts education and English as a second language.

When it comes to such matters as preparing and hiring new and experienced teachers, states do not exist in isolation. States, therefore, need to work with other state, regional, and national initiatives to insure that quality standards for students and teachers are more than “buzz words.” It is the job of all public school teachers and administrators and college and university faculty to deliver on their promises to develop and implement these standards.
Bibliography


