

## Chapter Four

# Policy Recommendations

Today, despite what we know is needed to assure children qualified teachers, many states still allow such diversity of preparation—both in traditional academic and alternative routes to the classroom—and such weak standards of entry into the profession that thousands of individuals enter classrooms only to flail and fail and leave after a short time. Thousands of others enter, stay, and never master the knowledge and skill necessary to be minimally effective, let alone “highly qualified.” Furthermore, once beginning teachers enter the classroom, they are all too often isolated from their more experienced veteran colleagues and left to “sink or swim” with no meaningful support to ensure that they develop into the highly qualified teachers that current policy rhetoric demands for all students.

At least 30 percent of new teachers leave the profession within the first five years of entry at great educational and financial cost to schools. Not only are teachers significantly more effective after their second year of teaching,<sup>1</sup> but such attrition is expensive. The costs of replacing beginners who leave average at least \$8,000 per recruit,<sup>2</sup> dollars that could be more profitably spent on direct investments in classrooms. Research has confirmed that high rates of attrition from teaching are often a function of inadequate preparation and support in the early years, along with poor salaries and working conditions. New teachers who have had these supportive student teaching experiences and course work in such areas as learning theory and child development are more than twice as likely to stay in teaching as those who have missed these important elements of preparation.<sup>3</sup> And

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those who have been fortunate enough to experience strong mentoring and support in the first years of teaching also leave at much lower rates than those who are left to learn on their own.

To be sure, despite the wide range of problems that have historically beset teacher recruitment and preparation—difficulty recruiting the ablest students, underinvestment in teacher education programs, lack of coordination between colleges of teacher education and the arts and sciences faculty, and inadequate preservice time for prospective teachers to acquire the content knowledge, pedagogical knowledge, and clinical experiences they need to be successful in the classroom—universities and school districts have produced thousands of capable teachers. Nonetheless, access to good preparation, traditional or alternative, is haphazard at best. At worst, the current nonsystem results in far too many poorly prepared and unprepared teachers employed disproportionately in schools serving large numbers of low-income and “minority” students. These are the schools where the very best teachers are needed if we are in fact to “leave no child behind” and assure all children a chance for an excellent education that prepares them to compete in a global economy and participate in a democracy that relies on an educated citizenry.

As concerns about the quality of American education have been linked to evidence that teacher quality makes an important difference in outcomes, a variety of reforms to create more rigorous preparation, certification, and licensing have been launched. With these reforms, the quality of preparation appears to have noticeably improved in some places. But the outcomes of recent reforms are not straightforward. The plethora of policies has sometimes worked in contradictory ways. For example, individual state efforts to upgrade standards have resulted in more disparate test requirements and less reciprocity among states, which has made it harder for teachers trained in states where there are surpluses to teach in those where there are shortages. And the upgrading of standards for teacher education has in many states created a bimodal teaching force, with some candidates meeting higher standards but a growing number of others entering through

backdoor routes, teaching on emergency permits when they do not pass the state tests or complete preparation requirements.

The same conditions pertained in medicine when Abraham Flexner published his landmark report on the state of medical education in the United States in 1910. Medical school programs at that time ranged in duration from three weeks to three years and were dramatically different in the scope and nature of knowledge they tapped. In his introduction to the report, Henry Pritchett, president of the Carnegie Foundation for the Advancement of Teaching, noted that although there was a growing science of medicine, most doctors did not get access to this knowledge because of the great unevenness in the medical training they received. He attributed this problem both to the fact that many doctors did not receive a formal education and to the failure of many universities to incorporate advances in medical education into their curricula. In the medical schools that had emerged in the previous decades, course work was frequently divorced from clinical work, and curriculum was often fragmented, superficial, and didactic—the same kinds of complaints that have dogged colleges of education since they took up the charge of educating teachers in the latter half of the twentieth century.

The eventual widespread reform of medical education occurred as the profession set standards for medical training—derived from research in the emerging sciences of medicine and the best practices of strong programs at that time—and infused these into the standards for accrediting professional programs and the standards for licensing and certifying medical candidates, who had to graduate from a professionally accredited program in order to sit for licensing and board certification examinations. Medical education was fashioned in large part on the curriculum developed at Johns Hopkins University, which included both course work in the sciences of medicine and clinical learning in the newly invented teaching hospital. Parallel processes of setting standards were later followed for law, engineering, nursing, psychology, accounting, architecture, and other occupations that became professions in the twentieth century.

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In similar fashion, over the last two decades, the teaching profession has begun to codify the knowledge base for professional practice and to establish standards for the work of practitioners through the efforts of the National Board for Professional Teaching Standards, the more than thirty states comprising the Interstate New Teacher Assessment and Support Consortium (INTASC), and professional associations of educators and members of subject area disciplines. This work has been made possible by huge strides in our understanding of student learning and the teaching practices that support it. The standards developed by these bodies distinguish more effective from less effective practice, as demonstrated by several studies that have found, for example, that teachers who have met the standards and achieved National Board Certification produce stronger gains in student learning than teachers who have not met these standards.<sup>4</sup>

Nonetheless, in recent years, the policy debate surrounding teacher preparation has been very fractious, with one set of advocates insisting that there is little to teaching beyond knowing subject matter and calling for the deregulation of preparation and elimination of licensure. These opponents of preparation believe teachers need only a few “tricks of the trade” that can be picked up on the job. They also believe that thousands of talented individuals who want to enter the teaching force are kept out by trivial requirements whose sole purpose is to keep the “teacher education monopoly” in colleges and universities alive and well. In some policy environments, these views have resulted in the proliferation of weak alternative routes for entering the classroom, as well as the dilution of traditional preparation.

Another set of proponents has argued that better practice will result from professionalizing teaching, not by eliminating teacher preparation, and by creating more thoughtful policies regarding

- Accreditation of traditional and alternative preparation programs
- Licensing standards
- Recruitment and retention of beginning teachers, including supports for induction

In the past, a major stumbling block to meaningful accreditation and licensure reform has been a lack of consensus on the core curriculum necessary for teachers to master and the clinical experiences future teachers should encounter as they prepare for their teaching careers. This volume provides the basis for determining the necessary knowledge and skill development that a program—traditional or alternative—should offer if it is to be accredited, and presents the features of a core curriculum that can form the basis for a rigorous licensing system. It also describes policies that need to be in place to recruit, retain, and improve the practice of beginning teachers.

### **Development and Accreditation of Preparation Programs**

As we noted earlier, prospective teachers are drawn from a variety of population pools and take a variety of pathways into the classroom. Although the vast majority—whether neophytes or career changers—still come through a teacher education program housed in a college or university, an increasing number enter teaching through alternative programs operated by districts or states. Some have considerable experience working with children; others have a great deal of experience as teachers of adults; still others come with deep knowledge of the subjects they wish to teach. Teacher preparation accreditation can accommodate this diversity by examining how every program assures that its graduates have the knowledge and skill described in the preceding chapters to be considered eligible for beginning to teach.

Depending on how the programs are structured and whom they recruit, programs will vary in emphasis on developing subject matter knowledge, pedagogical skills, and clinical supports. Nonetheless, taken together, any program should demonstrate how it ensures that its prospective teachers

- Know their subjects well and how to teach them to students
- Understand how children learn and develop

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- Understand their own language and culture and know how to learn about other cultures
- Know how to develop a curriculum and learning activities that connect what they know about their students to what the students need to learn
- Know how to teach specific subject matter in ways that are accessible to a diverse range of students.
- Know how to develop and use assessments that measure learning standards and how to use the results to plan teaching that addresses student learning needs
- Know how to create and manage a respectful, purposeful classroom
- Are able to identify and plan for children's learning needs
- Are able to develop interventions, track changes, and revise their teaching strategies as necessary
- Are able to work with parents and their colleagues to create a common set of expectations and collective supports for students' learning

To be accredited, any program—traditional or alternative—should be able to demonstrate that, in combination, its selection criteria, the content of its courses, and the pedagogies it employs ensure that its teacher candidates have mastered the content and experiences identified in this report as necessary to producing effective beginning teachers. Programs that do not expose their candidates to this core curriculum and to rich, well-supervised clinical experiences should not be allowed to operate. In addition, accreditation should take into account the proportion of teachers trained by a program who enter and stay in teaching. Supporting programs whose selection and training process is unsuccessful in recruiting and retaining significant numbers of recruits in teaching is wasteful. It dilutes the overall quality of preparation accessible to candidates by spreading thin the limited dollars available for clinical training to cover individuals who are unlikely to make a career in teaching.

What policies can be developed to assure that this occurs?

- The federal government can carefully examine its processes of granting accreditation authority to organizations to assure that the organizations' accreditation processes determine that preparation programs, alternate or otherwise, are coherent; include the development of a vision of teaching that is responsive to student learning; and that provide, through candidate selection and training, the course work and the clinical experiences necessary to produce teachers who have mastered the knowledge and skills identified in this report.
- States can implement policies that take seriously the accreditation of *all* teacher education programs, traditional and alternative, and (1) close programs that do not meet rigorous accreditation criteria and (2) refuse to grant licenses to individuals who have not successfully completed accredited programs.
- States can implement data systems that track for all programs—traditional and alternative—their success in preparing candidates who demonstrate in performance assessments that they can teach and who enter and stay in teaching.
- Institutions that sponsor teacher education programs can evaluate their current programs against the curriculum recommendations proposed here and can take steps to strengthen the course work and clinical work they offer.
- States and institutions can ensure that reimbursement ratios and funding for professional education programs are comparable to what is provided for other clinically based professional programs, such as nursing and engineering.

In addition, policies can be developed to support the creation of high-quality programs in the communities where they are most needed. For example, just as the federal government has long sponsored efforts to improve the quality of medical education and the spread of teaching hospitals that are sites for high-quality training, it should sponsor efforts—with strong quality standards—for the development of high-quality teacher education programs, including

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strong links to professional development schools, where candidates can learn to teach in settings that are successful with diverse student populations in urban and poor rural communities that experience teacher shortages. These programs should meet three criteria: ensuring a high-quality teacher preparation experience, attracting local residents to the programs, and ensuring a pipeline from preparation to hiring.

This approach would merge the attributes of excellent preparation programs with the benefits of many alternate-route programs: the fact that they finance and prepare candidates explicitly for a given district; thus the district reaps the investment's benefits, and candidates know they will have a job. When there are high-quality programs with the components we have described here, the bargain is a good one. And some programs target local residents and longtime paraprofessionals already knowledgeable about and committed to their communities. Such opportunities could be encouraged by federal grants to urban universities and districts to create or expand programs that meet high standards for program quality and that support local candidates from preparation through hiring. An analog is the set of federal programs that have created programs specifically designed to prepare health professionals for urban communities and have established community health centers to support clinical preparation.<sup>5</sup>

### Licensure Reform

Licensing is the legal means by which states establish the competence of members of professions, including teachers. It is meant to represent the minimum standard for responsible practice. In teaching, requirements for licensure typically include measures of basic skills and general academic ability, knowledge about teaching and learning, and subject matter knowledge, as well as some teaching experience. In many states, candidates for teaching must earn a minimum grade point average or achieve a minimum score on tests of basic skills, general academic ability, or general knowledge in order to be admitted to teacher education or gain a credential. In addition, they must take

specific courses in education and complete a major or minor in the subject(s) to be taught or pass a subject matter test, or both.

Despite the many reforms of the past fifteen years, a number of states still do not require a coherent program of studies in the field to be taught, a core set of essential course work, or extended student teaching. Further, many states permit teachers to be hired without licenses or on emergency licenses without completing preparation or meeting other licensure requirements. Teacher licensure in the United States remains a patchwork of requirements, with little comparability across states and, in many states, no assurance that candidates who are allowed to teach have been exposed to, let alone mastered, the core curriculum and experiences this report has identified as necessary for a beginning teacher.

It is hard to imagine why the teaching knowledge needed to instruct first graders to read, write, and compute should vary from state to state, but vary it does. Licensing examinations for teachers differ as to content, quality, and extent of mastery that teachers must have in order to be qualified to enter the classroom. For example, during 2001–02, thirty-seven states required teaching candidates to pass tests of basic skills or general academic ability, thirty-three required them to pass tests of subject matter knowledge, and twenty-six required them to pass tests of pedagogical knowledge. Most of these tests were different from state to state and many candidates who left the state where they prepared to teach to take employment in another had to pass separate batteries of several tests in both states and take additional courses not required in the first state, at great expense of time and money. Many teachers who move between states leave the profession for other careers because of such obstacles.

The current hodgepodge of licensure exams poses three serious problems for those concerned about the quality of teachers entering the classroom:

1. Many of the tests being offered assess low-level or marginally relevant knowledge and skills, not the candidate's deep knowledge of subject matter and actual teaching skills.

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2. Cut scores for these tests are sometimes low or are not enforced. When states have teaching shortages they often waive the testing requirement and allow hiring of those who have not passed the test.
3. The lack of consistency across states creates barriers to teacher mobility, which is a particular problem since many states have surpluses of teachers while others have shortages. The hiring of well-qualified teachers in all communities requires policies that can get teachers more effectively from where they are trained to where they are needed.

Whereas other professions control the content of licensure tests, teaching examinations are usually developed by testing companies or state agencies with little input from formal professional bodies. When it is solicited, input from practitioners is usually limited to reviewing test categories and items. Further, licensure tests have been criticized not only for lack of rigor but also for oversimplifying teaching and emphasizing classroom procedures over the complexities of instructional decision making.<sup>6</sup>

A major reason for the weakness of teacher licensing has been the absence of a consensus on a core curriculum upon which to build a rigorous test. This report provides the basis for the development of such a test—one that could be used by all states in much the same way that they currently use the multistate bar exam as one part of the licensure process to assure rigor and quality control across the country.

Such a test, like those used to certify doctors, lawyers, and architects, should demonstrate not only what teachers *know* about their subjects and how to teach them but also what they can *do* in the classroom; for example, whether they can plan and implement lessons to teach to standards, evaluate students' needs and design instruction to meet them, use a variety of effective teaching strategies, and maintain a purposeful, productive classroom. Fortunately, assessments that use videotapes of teaching and teachers' and students' work samples to evaluate what teachers actually do in the classroom have

been developed by the National Board for Professional Teaching Standards (for use in certifying veteran accomplished teachers) and by states such as Connecticut for use in licensing beginning teachers. These assessments build on the knowledge base described here and have been found to be significantly related to teachers' effectiveness in producing student learning.

What policies can assure that the licensure system is made more sensible and rigorous?

- Congress should provide the funds for an independent professional authority to work with state professional standards boards and licensing authorities to develop a performance-based testing program that evaluates teaching skills for entering teachers based upon the core curriculum presented here and the successful demonstration of teaching skills in a rigorous performance assessment.
- Congress should provide incentives for states to incorporate such assessments—as well as course work and clinical requirements that reflect the knowledge and skills outlined here—into their licensing processes and to close loopholes that allow teachers to teach without meeting the standards.

In order to close these loopholes, however, it is necessary for states and the federal government to have in place incentives for recruiting an adequate supply of teachers for all communities and policies that can stem the high attrition of beginning teachers, which is the real source of most teacher shortages.

### **Recruitment and Retention of New Teachers**

Ensuring that all teachers are well-prepared and all students have highly qualified teachers is not only a matter of improving teacher education programs. It is also a matter of ensuring that candidates who are hired have had the opportunity to experience these improved programs, that they will choose to teach where they are needed, and that they will stay in the profession and continue to grow ever more

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proficient. In fact, the greatest causes of teacher shortages are (1) the unequal distribution of teachers across schools, districts, and regions (with some places experiencing large surpluses while others experience shortages) and (2) the high attrition rate of beginning teachers. These attrition rates are strongly influenced by both the preservice preparation that candidates receive and the induction support they experience in their first year of teaching.

Federal and state governments can help address these problems by subsidizing candidates' studies as well as by leveraging program improvements.<sup>7</sup> The relevance of these investments to improved teacher education is twofold:

1. Many candidates do not get access to adequate preparation because they cannot afford either the tuition or the opportunity costs of being without employment for a period of time. And these costs are harder to bear when a recruit is entering a profession that does not promise large salaries later to compensate for loans taken earlier. Whereas many European and Asian countries completely underwrite a comprehensive program of teacher education for all candidates, the amount and quality of preparation secured by teachers in the United States is left to what they can individually afford and what programs are willing and able to offer given the resources of their respective institutions.

2. Institutions pressured to prepare working teachers who have entered teaching on emergency permits and who are trying to play catch-up with their training often water down the quality of preparation they provide. Both recruits and employers find this kind of training less satisfactory than a more coherent, supportive experience that includes supervised clinical training along with more thoughtfully organized course work.<sup>8</sup>

Better financial supports for teachers in training will also support the quality of training they receive—traditional or alternative. This can be accomplished by drawing in large part on the federal experience with medical manpower programs. Since 1944, the federal gov-

ernment has subsidized medical training to meet the needs of underserved populations, fill shortages in particular fields, and increase diversity in the medical profession. Just as is done in medicine, the federal government should provide large-scale service scholarships and forgivable loans to teachers who agree to train in shortage fields and practice in high-need locations. As in the successful North Carolina model, scholarships for high-quality teacher education can be linked to minimum service requirements of four years or more—the point at which most teachers who have remained in the classroom have committed to remaining in the profession. Some states have coupled such initiatives with subsidies for student teaching to further increase the likelihood that recruits will be able to afford to be well-prepared, rather than cutting corners to get into the classroom and then leaving quickly.

In addition, teachers are much more likely to stay in the profession if they are supported in their early efforts to learn to teach. Unlike some other professions, where new entrants are formally inducted into the profession by careful supervision, mentoring, and other apprenticeship-like experiences, teachers too often are put into a classroom and left on their own without access to more seasoned teachers or formalized ways to work through with others the difficulties of any new professional confronted with the hard realities of transforming “book knowledge” into action.

Graduation from a teacher education program—whether one year or several—cannot be considered the end of training for teachers. The demands of the precollege degree—acquiring subject-matter knowledge, pedagogical content knowledge, and clinical training—do not allow sufficient time for teacher candidates to develop the skills and experiences necessary to solve all the problems of practice they will encounter in their initial teaching assignments, including the skills necessary to work effectively with parents, colleagues, paraprofessionals and other education support staff.

Nonetheless, after graduation from a teacher education program or upon completion of an alternative route program, too many new teachers are assigned the most challenging assignments with the

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largest classes, most difficult students, and most preparations and duties, and then left on their own to master the intricacies of teaching. By contrast, other countries with high-achieving school systems induct new teachers into the profession through clinical, real-world training processes—following rigorous undergraduate or graduate academic preparation—by which inductees develop and perfect their teaching skills under the mentorship of more experienced and skilled colleagues.

Although there has been a focus on support for beginning teachers and a call for induction programs to meet beginning teachers' needs, existing programs vary considerably. For some teachers, induction is merely a short nuts-and-bolts orientation: for example, where supplies are kept, where restrooms are located, and what the school rules and procedures are. Other teachers are fortunate enough to experience mentoring with experienced colleagues who have released time to coach them and model practices in the classroom and who pay careful attention to the beginning teachers' developing professional practice as they confront the hard realities of the classroom. Research has shown that effective induction programs have the following characteristics:

- *All beginning teachers are assigned qualified mentors in their teaching field who are regularly available to coach and model good instruction.* Mentors need to be screened carefully and should meet designated criteria that ensure only high-quality practitioners assume the role. They must be given training in mentoring and have reduced teaching loads that allow them to go into novices' classrooms on at least a weekly basis and have a reasonable number of new teachers to supervise.
- *Beginning teachers have reduced teaching loads.* In order to hone their professional skills, novice teachers need both the time and the opportunity to observe other teachers teach, plan and confer with colleagues, work with their mentors, and reflect on their own teaching.
- *The program lasts at least one year.* Research shows that when it comes to beginning teacher induction programs, a one- to two-year program can make the difference between a teacher who succeeds

early in her career and one who does not, and between a teacher who remains in the profession and one who does not.

- *A sound assessment of teaching skills guides the induction process and a careful review of practice completes the induction program.* Mentor teachers and principals guide and evaluate beginning teachers' performance by using professional teaching standards and assessments that examine how teachers are exhibiting the central knowledge, skills, and dispositions expected of professional teachers. Time in an induction program should not be the criteria for candidate success. Successful completion of induction should require a summative review of the candidates' teaching based on established standards of effective practice.

All beginning teachers, regardless of their pathway to certification, deserve such high-quality induction programs. What can be done to assure that quality teacher induction is a part of the beginning teacher experience?

- The federal government can provide incentives for states to develop quality teacher induction programs. Since many states and some districts have enacted some kind of induction program, some resources already are focused on these needs. Relatively few programs, however, ensure that expert mentors in the same teaching field are made available for in-classroom support, the component of induction with the greatest effect on teacher retention and learning. Part of such a program could supply grants to state agencies willing to develop statewide induction programs that would target funds to districts, universities, and other agencies to develop and test model induction programs and concentrate on support for new teachers in hard-to-staff schools.

- The states can incorporate requirements for participation in such programs as part of the licensure process, as a number of states already have done. Candidates, for example, must often complete the program and pass an embedded assessment of teaching skills in order to gain the professional license that follows the probationary period.

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- States and the federal government can provide funds to districts to pay for induction programs that meet the criteria for strong programs supported by research.

A final element of retaining well-prepared teachers in schools is developing schools in which teachers can put to use the practices they have learned. Teachers are much more likely to stay if they feel they can be effective in their work. And teachers are much more likely to be trained to be effective if their clinical experiences are in schools that support good practice. If educational improvement is the goal, it is not enough to prepare individual good teachers and send them out to dysfunctional schools. If teachers are to be effective, they must work in settings in which they can use what they know—where they can come to know their students and their families well, work with other teachers to provide a coherent, well-grounded curriculum, evaluate and guide student learning by using information-rich assessments, and use texts and materials that support thoughtful learning. Unfortunately, given the hodgepodge of policies, the lack of resources in many districts, and the fragmented design of factory model schools, these conditions are absent in many U.S. schools.

Many analysts have noted that there is very little relationship between the organization of the typical American school and the demands of serious teaching and learning. This poses a much larger systemic agenda for change in schools. Given the challenges of contemporary schooling, it would be naïve to suggest that merely producing more highly skilled teachers can, by itself, dramatically change the outcomes of education. We must attend simultaneously to both sides of the reform coin: better teachers and better systems. Schools will need to continue to change to create the conditions within which powerful teaching and learning can occur, and teachers will need to be prepared to be part of this change process.

While the system changes that are needed go far beyond what individual teachers can be expected to effect, teacher preparation can support needed systemic reforms by helping teachers learn how

to work on the improvement of practice as members of collaborative communities and by engaging in partnerships with schools and districts to transform schooling and teaching in tandem. In this way, prospective teachers can be prepared to teach effectively in the schools where they are needed, and they can learn first-hand how to develop contexts that will support the learning of all their students.

Many kinds of institutional commitments are also needed among organizations that sponsor teacher education: commitments to adequate funding, strong staffing of teacher education programs, improved research on program strategies and outcomes, and changes in incentive structures that discourage participation in teacher education or collaboration across parts of the university as well as between universities and schools.

In the long run, those who are concerned about the ability of all teachers to teach all students well must join their concerns about improvements within local schools and schools of education with a commitment to create policy environments that foster the development of powerful preparation for effective teaching. This will require the involvement not only of teacher educators but also of superintendents, principals, and practicing teachers who join forces to insist upon solid professional learning opportunities before and during their careers; parents and community members who understand the critical importance of investments in professional preparation for the educators of their children; university presidents, faculty, and trustees who commit to ensuring that education schools are central to the work of universities and comparable in quality to other professional schools; and policymakers who understand that if American public education is to meet the aspirations this nation has assigned to it, the preparation of excellent teachers is the central commitment without which other reforms are unlikely to succeed.

### *Policy Recommendations: Quick Summary*

- Both traditional and alternative teacher education programs should be closely evaluated and granted accreditation only if their programs ensure that candidates master the core set of knowledge and skills described in this volume. The federal government can incorporate this expectation when it authorizes accrediting organizations.
- States should close programs that do not meet the rigorous accreditation criteria and should also refuse to grant licenses to individuals who have not successfully completed accredited programs.
- Data-tracking systems should be created to assess programs' success in preparing candidates who enter and stay in teaching and in demonstrating good practice on performance assessments.
- Teacher education programs should evaluate their programs against the recommendations proposed here and take steps to strengthen their course work and clinical work.
- States and institutions should ensure that reimbursement ratios and funding for teacher education programs are comparable to other clinically based professional programs, such as nursing and engineering.
- The federal government should provide incentives—as it does in medicine—for the development of high-quality teacher education programs in urban and poor rural communities that provide a pipeline from preparation to hiring.
- Congress should provide funds for an independent professional authority to work with state professional standards boards and licensing authorities to develop a national performance-based testing program for teachers that assesses the knowledge and skills described here through actual demonstration of teaching practice.

- Congress should provide states incentives to incorporate the assessments into their licensing processes.
- The federal government should substantially expand service scholarships and forgivable loans to subsidize education for those who prepare to teach in shortage fields and go to shortage locations, linked to minimum service requirements of four years or more.
- States and the federal government should sponsor high-quality induction programs that will help beginning teachers gain expertise and stay in the classroom. These programs should include trained mentors who are expert teachers with released time to coach and model good instruction; reduced teaching loads; and sound performance assessment to guide learning.

