State policymakers can have an impact on the quality of the teaching force if they look seriously at three issues. The first issue is setting and enforcing teaching standards: setting standards for teacher education, teacher licensing, and ongoing evaluation and professional development; working toward National Council for the Accreditation of Teacher Education (NCATE) accreditation for all schools of education; licensing teachers based on Interstate New Teacher Assessment and Support Consortium (INTASC) standards and assessments; and using standards developed by the National Board for Professional Teaching Standards (NBPTS) as the benchmark for advanced certification of accomplished teachers. The second issue is improving teacher education and induction programs. Successful methods incorporate new knowledge about learning and teaching, link theory to practice, and provide ongoing support throughout the early teaching years. The third issue is recruiting, developing, and retaining good teachers. These efforts include: state scholarships for preparation, mid-career recruitment, reciprocal licensing agreements and portable pensions, incentives to enter teaching, professional development organized around new standards, support for new professional development sources, ongoing daily professional development, and allocation of state and local education funding for professional development. (SM)
INVESTING IN QUALITY TEACHING:
State-Level Strategies
by Linda Darling-Hammond and Ellalinda Rustique-Forrester

With rising pressure to improve student achievement, state policymakers have begun to ask what kinds of investments should be made in education to ensure greater student learning. This Perspective by Linda Darling-Hammond explores what is increasingly viewed as one of the most important strategies for improving schools and raising student achievement — investment in high-quality teaching. The major components of the strategy she describes are to set and enforce teaching standards, improve teacher education and induction programs, and strengthen teacher recruitment and professional development. This paper represents the views of the author and not necessarily that of ECS staff or commissioners.

OVERVIEW
Recent studies have consistently found that teacher expertise is the single most important determinant of student achievement. Each dollar spent on improving teachers' qualifications nets greater gains in student learning than any other use of an education dollar. Yet teacher quality is extremely uneven in the United States, and many students do not have access to teachers who are prepared to teach to the new standards states are developing.

Because of growing enrollments and increased retirements, more than two million teachers will be hired over the next decade. Of the teachers in classrooms in the year 2006, more than half will have been hired in the next 10 years. This means that state policymakers can have a major impact on the quality of the teaching force if they are willing to look seriously at redesigning teaching standards, teacher education, hiring, recruitment, induction, evaluation and professional development.

SETTING AND ENFORCING TEACHER STANDARDS
If students are to be asked to meet higher standards, it stands to reason their teachers should meet standards of knowledge and skill that ensure they can help students learn. Until recently, however, teaching has not had a set of coherent standards that outline clearly what teachers need to know and do to be effective, and existing standards often go unenforced. For example:

- **Standards for teacher education.** Because most states do not require schools of education to be accredited, fewer than half of the nation's education schools have met common professional standards through the National Council for the Accreditation of Teacher Education (NCATE). States routinely approve all of their teacher education programs, including those that lack qualified faculty and are out of touch with new knowledge about teaching. Only three states — Arkansas, North Carolina and West Virginia — require schools of education to be accredited.

- **Standards for teacher licensing.** Few states have incorporated recent advances in knowledge about teaching into their licensing standards. While some states require some form of testing for a teaching license, the tests in use — generally multiple-choice tests of basic skills and general knowledge — fall far short of what is needed to adequately sort those who can teach from those who cannot. In many states, the cutoff scores are so low that there is no effective standard for entry, and the minimal standards that exist are routinely waived when districts ask to hire candidates who do not meet them.
• Standards for ongoing evaluation and professional development. Most professional development for teachers is little more than "hit-and-run" workshops, uninformed by new student standards or current knowledge about effective practice. Outmoded teacher evaluation criteria often work against the kind of teaching needed to reach new student standards. School administrator certification rarely includes knowledge about teaching and learning or about how to manage high-performance organizations.

Strategies for Setting and Enforcing Teaching Standards

The critical starting place to improve the caliber of teaching is creating a viable system of standards that ensure high-quality preparation and ongoing professional development. Three professional bodies recently completed an effort to produce teaching standards linked directly to standards for student learning.

Those organizations are: (1) NCATE, which has developed new standards for teacher education; (2) the Interstate New Teacher Assessment and Support Consortium (INTASC), a consortium of more than 30 states and professional associations that has developed new licensing standards; and (3) the National Board for Professional Teaching Standards (NBPTS), which has developed standards and assessments for advanced certification of accomplished teaching.

Together, this set of closely aligned standards offers state policymakers the most powerful tools available for developing a high-quality teaching force. Indiana, Ohio and North Carolina are among a number of states that have adopted the entire continuum of teaching standards as the basis of learning throughout the teaching career. This continuum includes:

• Working toward NCATE accreditation for all schools of education. NCATE's standards, most recently revised in 1995, reflect the evolution of a much stronger knowledge base for teaching, and require schools of education to demonstrate how they are incorporating new knowledge about the effective teaching of subject matter and various approaches to learning in their programs. Currently, 40 states have partnerships with NCATE.

• Licensing teachers based on INTASC standards and assessments. INTASC's licensing standards, adopted in more than 20 states, outline what teachers need to know and be able to do to teach students for today's new standards. INTASC's standards are the basis for a test of teaching knowledge for an initial license and a performance assessment of teaching skills during the first two years of supervised teaching that would be the basis for a continuing professional license. These new examinations are being developed and piloted by 19 states that belong to the consortium.

• Using NBPTS standards as the benchmark for accomplished teaching. Established in 1987 to define standards for advanced certification of accomplished veteran teachers, the NBPTS began offering assessments in 1994 and has certified about 500 teachers since then. In a growing number of districts and states, NBPTS-certified teachers receive extra pay and qualify to become mentors or lead teachers. In addition, some districts are incorporating NBPTS standards into ongoing professional development and evaluation for teachers. Some states are assisting this process by paying the testing fee for teachers willing to seek certification.

IMPROVING TEACHER EDUCATION AND INDUCTION PROGRAMS

Most teachers are educated in four-year undergraduate programs that seek to impart both knowledge of subject matter and knowledge of teaching and learning within the undergraduate degree. Key elements of teacher learning often are disconnected from one another. Coursework often is separate from practice teaching; professional skills are segmented into separate courses, and arts and sciences faculties are insulated from education professors.

Moreover, the kinds of supervised internships regularly provided for new entrants in other professions — architects, psychologists, nurses, doctors, engineers — are rare in teaching. When new teachers enter the classroom, they typically are given the most challenging assignments with the most difficult-to-teach students in the most disadvantaged schools and are left to sink or swim with little or no support. This traditional sink-or-swim induction contributes to high attrition — about 30% of beginning teachers leave within the first five years — and to lower levels of teaching effectiveness.

Strategies for Improving Teacher Education and Induction Programs

Successful strategies to improve teacher education must incorporate new knowledge about learning and teaching, link theory to practice and provide ongoing support throughout the early years of teaching.

Since 1986, about 300 colleges have created graduate-level teacher education programs that allow for more
extended clinical training. Extended programs allow beginning teachers to complete a bachelor's degree in their subject and acquire a firm grounding in teaching skills. Some are five-year models that begin in undergraduate school and allow an extended program of postbaccalaureate preparation; others are one- to two-year graduate programs serving recent graduates or mid-career recruits.

In either case, the fifth year allows for extended practice teaching tied tightly to relevant coursework. Studies have found that graduates of these programs are rated as more skilled and effective by their principals and colleagues, and they are more likely to enter and remain in teaching than their counterparts educated in four-year programs.

The best of teacher education reforms involve beginners in more intensive preparation featuring year-long internships at "professional development schools" before they are hired, after which they work intensively with an experienced mentor during the first year of teaching. Beginning teachers who receive mentoring become more effective more quickly because they have the opportunity to learn from guided practice rather than through trial-and-error. They also leave teaching at much lower rates than new teachers who do not receive mentoring and other supports.

Thus far, only a few states, such as Minnesota and Ohio, have taken steps to support substantially restructured training for teachers that includes extended internships or residencies in professional development schools. Among the strategies available to states interested in supporting major redesigns of teacher education are the following:

- **Offering challenge grants** to colleges to develop extended programs and professional development schools
- **Changing teacher-credentialing policies** to make internships that include performance assessments a required part of the licensing process.

**RECRUITING, DEVELOPING AND RETAINING GOOD TEACHERS**

Each year, the nation produces more new teachers than it needs, yet there are shortages of qualified candidates in particular fields (e.g., math and science) and particular locations (primarily inner-city and rural). While some school districts cannot find the applicants they need, others have long waiting lists of qualified teachers eager for work. Some states routinely export their surplus teachers; others scramble to import them.

Teacher shortages are made worse because qualified teachers often find themselves unable to transfer their license to a new state, and teachers who could be persuaded to move to districts or states with shortages face the loss of seniority, salary and pension credits.

Once hired, teachers have few opportunities or incentives to continue to become more skillful in the classroom. Monetary incentives take the form of salary increases tied to graduate course-taking which may not focus on teaching and rewards seat time, not greater effectiveness. The only way to advance in the profession is to become an administrator or a nonteaching specialist. Consequently, individuals are rewarded for leaving teaching, but not for staying and getting better at it.

**Strategies for Improving Teacher Recruitment**

Among the ways in which state investment in education can make a critical difference in student achievement is through the hiring and training of more highly qualified teachers. Teacher shortages are much rarer in states and districts with proactive teacher recruitment policies than in those that have treated teaching in a laissez-faire manner. The state of Connecticut, for example, has been able to eliminate shortages by equalizing and increasing beginning teacher salaries while raising licensing standards. As Connecticut has invested in teaching over the past decade, student achievement has increased sharply. Other useful strategies include:

- **State scholarships for preparation.** States can support scholarships for teachers-in-training who commit to teach in high-need fields and hard-to-staff locations. Targeted recruitment programs and financial supports for preparation also have been found effective in recruiting minority candidates into teaching.
- **Mid-career recruitment.** Untapped reservoirs of potential teachers can be found in downsizing corporations, military and government retirees, and teacher aides already in the schools. Many colleges have created high-quality graduate-level programs for preparing mid-career entrants. Others have developed pathways to assist paraprofessionals in completing teacher preparation and becoming certified.
- **Reciprocal licensing agreements and portable pensions.** State participation in the INTASC assessment system soon will allow strong reciprocal licensing agreements among states so that states with shortages can easily recruit from states with surpluses. Portable pension systems, like the TIAA-CREF
program at the college level, would help match supply and demand.

• Incentives to enter teaching. States can encourage districts to provide additional pay for teachers with licenses in two or more subject areas and consider stipends for teachers with licenses in shortage areas.

Strategies for Developing and Retaining Good Teachers

More productive approaches to professional development can be linked to new career paths for teachers that better reward and use knowledge and skills. The National Commission on Teaching and America’s Future has recommended that states and districts do the following:

• Organize professional development around new standards for student learning as well as new standards for professional teaching.

• Support new sources of professional development, such as teacher academies, professional development schools and networks that connect teachers across schools and disciplines.

• Encourage schools to make ongoing professional development part of teachers’ daily work through school designs that allow joint planning, research, curriculum and assessment work, study groups and peer coaching.

• Allocate at least 1% of state and local education funding to be consistently devoted to high-quality professional development. States also should provide matching funds for districts to increase their investments in professional development to 3% of total expenditures.

• Develop a career continuum for teaching linked to assessments and compensation systems that reward knowledge and skill. This would include building into compensation systems additional pay for licensing in more than one subject area, successful completion of performance assessments for a full continuing license, and NBPTS certification; paying expert teachers at levels comparable to those of administrators; and allowing teachers to take on other professional roles such as mentoring, curriculum development and leadership roles.

CONCLUSION

Policies supporting high-quality teaching should be viewed as a single tapestry, with each of the strategies examined above as tightly interwoven threads. Policymakers need to align policies in support of student and teacher learning so they are coherent and complementary. Investing in quality teaching is the single most important way to achieve higher standards for student learning. States that do so are likely to produce lasting and substantial change in what their students know and are able to do.

This policy brief is based on Investing in Quality Teaching, a report prepared for the Education Commission of the States by Linda Darling-Hammond and Ellalinda Rustique-Forrester of Teachers College, Columbia University.
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