

A Plan to Improve the Quality of Teaching in American Schools

Ron Haskins and Susanna Loeb

Research on teacher quality shows not only that students who have good teachers learn more but that their learning is cumulative if they have good teachers for several consecutive years. The major goal of educational reformers today should be to boost teacher quality. We outline a five-part plan by which school systems could achieve this goal. The plan includes rethinking entry requirements for teaching, implementing a strategy to identify effective teachers, promoting only effective teachers, giving bonuses to teachers who teach disadvantaged students or in fields that are difficult to staff, and promoting professional development linked directly to teachers' work. As part of its reauthorization of the No Child Left Behind Act this year, Congress could consider funding large-scale demonstration and research programs by school systems to test plans for improving teacher quality.

The rousing national discussion of teacher quality is the most important debate on education in a generation. A compelling body of research now shows that good teachers can boost student achievement. Even more exciting, students who have good teachers for several consecutive years show cumulative gains in achievement. For educators, researchers, and poli-

ABOUT THE AUTHORS: Ron Haskins is a senior editor of *The Future of Children* and senior fellow and co-director of the Center on Children and Families at the Brookings Institution. Susanna Loeb is associate professor of education and director of the Institute for Research on Education Policy and Practice at Stanford University.

To read the full report on teaching, go to www.futureofchildren.org.

cymakers of a certain age who have suffered through wave after wave of ineffectual educational reform, the new research on teacher quality has finally created optimism that something can be done to boost student achievement. A second reason the debate on teacher quality is so important is that a key provision of the No Child Left Behind (NCLB) Act, which is being reviewed by Congress this year, is that states must provide every student with a highly qualified teacher in all core courses. Proposals on improving teacher quality could thus not be more timely. The purpose of this policy brief is to review the evidence showing the importance of teacher quality and then, drawing on articles published in the latest volume of *The Future of Children* and other recent proposals, to outline a plan that Congress could adopt to substantially improve teacher quality over the next decade and beyond. Our plan also emphasizes closing the gap in achievement between middle-class students and their poor and minority peers.

The Failures of American Education

Since the publication, in 1983, of *A Nation at Risk*—the report by the U.S. Department of Education that declared American public schools so bad that had a foreign enemy inflicted such schools on us, we would consider it an act of war—the nation has been through several waves of education reform. All have been, more or less, a response to three chronic problems: U.S. schools fare badly in international comparisons, the school dropout rate is high and probably rising, and a huge gap in achievement between whites and blacks (with Hispanics in the middle on most measures) emerges as early as age three and persists throughout the school years and beyond—and all this even though spending on public education has more than doubled since *A Nation at Risk* burst onto the national scene. Improving the quality of the average American teacher would address all three problems.

Good Teachers Make a Difference

A Nation at Risk was not the first bomb to land in the midst of the nation's educational establishment. In 1966, at the behest of the federal government, sociologist James Coleman of the University of Chicago published one of the most controversial studies in the history of social science research. Based on analysis of data on 600,000 students from 4,000 schools, Coleman and his team reached the conclusion that family background was a more important determinant of educational achievement than any characteristic of the schools—teacher salaries, books in the library, per-pupil expenditures—traditionally assumed to influence student achievement. At first Coleman's conclusion about the relative importance of family background was rejected by many educators and pundits, but eventually it came to dominate thinking about education, especially because subsequent analyses of Coleman's data as well as other data sets confirmed his findings. As an ever-expanding body of research showed that most reforms designed to promote school achievement or to reduce the gap between ethnic groups made little progress toward accomplishing either goal, a kind of pessimism settled over educational research and policymaking.

The recent findings on the importance of good teaching provide a welcome relief. At last high-quality and large-scale studies are showing the impact of good

teachers on student achievement. One of the first large-scale studies, published by William Sanders and June Rivers of the University of Tennessee in 1996, was based on test score results in mathematics for students who were followed from grades three through five. Teachers for each grade were divided into five groups of equal size based on the improvement they produced in their students' math scores. Students who had teachers in the top fifth of teacher effectiveness for each of the three years scored about 50 percentile points better than students who had teachers in the lowest fifth. Subsequent analyses showed that teachers in the top fifth produced improvement among all students, regardless of their original scores or ethnic group. Another high-quality study, this one by Eric Hanushek, John Kain, Daniel O'Brien, and Steven Rivkin, used gain scores from Dallas in grades four through eight to show that good teachers are effective with students of all ability levels, that first-year teachers are the least effective in boosting student achievement, that teachers leaving the public schools are less effective than those who stay in teaching, and that students achieve more when their teachers are of their own race.

Reviewers of these and other empirical studies have almost uniformly agreed that the body of research on teacher quality stands up well to careful scrutiny. Teacher quality is the single most important feature of the schools that drives student achievement.

A Plan to Increase Quality

Not surprisingly, many researchers and educational groups are putting together plans for raising teacher quality. Though none has yet been fully tested, we believe there is a good chance that combining specific elements from these plans could raise the average quality of teachers countrywide. In selecting the elements that we think are most promising, we emphasize that any plan must be subjected to careful evaluation. Indeed, a key feature of our approach would be the incorporation of ongoing research that would provide data needed both to judge success and, where success was lacking, to adjust the plan accordingly.

Our plan is similar in some ways to a proposal by Dan Goldhaber for the Center for American Progress and to one by the Milken Family Founda-

tion several years ago that is now being implemented with private funds. It also shares some features with a plan set forth by Robert Gordon, Thomas Kane, and Douglas Staiger for the Hamilton Project at the Brookings Institution. And it is consistent with the recommendations for formulating public policy contained in the lead article of the new *Future of Children* volume. Our plan differs from most previous plans, however, in that we support neither the complete elimination of teacher certification nor the implementation of merit pay for teachers based solely on gains in student test scores.

Selectively Implement Entry Requirements

Because open markets and competition maximize consumer choice and producer efficiency, entry requirements in any given market are suspect on the grounds that they reduce both choice and competition. Nonetheless, many professions restrict entry to the market they serve by creating standards and certification requirements that must be met before the professional is allowed to practice. If the standards and certification procedures are reasonable, and if they are directly related to professional performance, the sacrifice in choice and efficiency can be a good tradeoff. The patients of brain surgeons certainly think the tradeoffs are justified.

New programs that have reduced entry requirements for teachers and focused on recruitment and selection, such as Teach for America and the New York City Teaching Fellows, have demonstrated that easing requirements can greatly increase the pool of prospective teachers. That said, this larger pool does not appear to have led to dramatically better student achievement, though there is evidence of small gains.

Similarly, certification requirements themselves have demonstrated some good effects. For example, the Highly Qualified Teacher provision of NCLB requires new teachers to pass an exam to demonstrate competence in the core subjects they teach. This requirement appears to have improved the basic academic ability of teachers entering schools that serve the lowest-income students. Recent research in North Carolina and New York also suggests that certified teachers are somewhat more effective in boosting student achievement than teachers who are not certified.

Certification is intended to ensure that teachers have a minimal level of competence as they begin their careers. It can be a screening device to eliminate potentially poor teachers. But it is a blunt instrument that both lets some poor and mediocre teachers through its screen and blocks some potentially strong teachers. Thus, certification should not be the final word in determining who teaches. Further eval-

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uation once teachers are in the classroom is essential to ensuring a strong workforce.

Little research as yet sheds light on exactly which aspects of certification improve teaching and student achievement and which aspects so reduce the pool of teachers as to worsen student outcomes. Policy reforms that allow for different requirements for certification and then test the relative merits of different approaches would go a long way toward making it possible to set optimal certification requirements. The current state of knowledge suggests little more than that some form of certification can be useful but that requiring teachers to get unspecified masters' degrees is unlikely to help student learning.

School systems should avoid a lock-step system in which teachers who meet certification requirements are hired and then, after teaching for two or three years without receiving further scrutiny, receive tenure. Better for school systems to require teachers to meet initial certification, but then establish a rigorous set of procedures and requirements that teachers must satisfy to receive either tenure or promotion. We will have more to say about such procedures and requirements below.

Identifying Effective Teachers

Like most other educational researchers and policy analysts, we are intrigued by the growing movement

to use changes in student test scores to evaluate effective teaching. Often called value-added modeling, the general idea of the method is to use complex statistical techniques and repeated testing of students to measure changes in student performance while controlling for non-school influences such as family background. In a perfect world, tests could be used in this way to accurately determine how much students learn each year and then these changed scores could be used to make reliable determinations of which teachers are proficient.

The most reasonable conclusion is that test score changes should not be the only element in a system of evaluating teacher performance.

But problems arise in using student test scores to identify effective teachers. The use of test scores gives teachers an incentive to manipulate the system by teaching test-taking skills, focusing more on some students than others, undermining the performance of other teachers, or simply cheating. Test scores measure a narrow range of academic abilities and encourage teachers to teach only measured areas, and they require complex adjustments to take into account the characteristics of students entering a classroom, as well as other inputs from the school. In addition, although a recent careful review by researchers at Rand concluded that studies “provide evidence that teachers have discernable, differential effects on student achievement, and that these effects appear to persist into the future,” the size of the effects are difficult to determine, and many claims of big impacts on student achievement are exaggerated. These are non-trivial problems that are likely to overwhelm any benefits of using tests as the sole measure of teachers’ contributions.

It does not follow from these cautions that value-added approaches should be abandoned. The most reasonable conclusion is that test score changes should not be the only element in a system of evaluating teacher performance. Rather, school systems should judge teachers on a combination of student

gains, principal evaluations, parent evaluations, and perhaps other measures, using a procedure that is developed cooperatively by school administrators, teachers, teachers unions, and perhaps parents. For example, test scores could be used as a screen to identify potentially weak or strong teachers and then more intensive evaluation could be targeted toward those teachers. Rather than celebrate value added as a breakthrough that solves the sticky problem of identifying effective teachers, we should regard it as a useful new tool that, taken together with more traditional methods of evaluation, can improve our ability to identify effective teachers.

Promote Only Effective Teachers

As noted, we think certification is, at best, only a modestly effective way of hiring effective teachers. Realizing that neither certification nor any other method of selecting new teachers will be foolproof, we think school systems should place great emphasis on evaluating teachers during the initial years of their careers and on nurturing their skills through professional development activities. Meanwhile, the school system should develop a method for identifying effective teachers, based on both value-added measures and other measures, to decide which teachers should be promoted. It would be especially appropriate for school systems to use their assessments to identify teacher strengths and weaknesses to determine what professional development and supports they need to improve their teaching. If teachers continue to have problems after receiving support, then value-added assessment and other components of the evaluation system can be used as a basis for dismissal.

Good Teachers in Problem Schools

As a nation, we have invested substantial resources to help poor and minority students boost their academic achievement. On average, poor and minority students face serious disadvantages in their homes and communities that result in their entering kindergarten measurably behind their more fortunate peers. To address this problem, the Head Start preschool program was launched in 1965 and more than forty states now fund their own preschool programs. Similarly, in the same year that Head Start began, Congress passed the Elementary and Secondary Education Act, which focused funding on districts

with disproportionate numbers of poor children. So far, despite spending scores of billions of dollars, neither program has substantially reduced the gap in test scores. In 2002 Congress replaced the 1965 education law with NCLB, one of whose major goals is to increase the achievement of poor and minority students through extensive testing and school choice for those in failing schools. Again, at least so far, the achievement gap between students from middle class and white or Asian homes and students from poor and black or Hispanic homes has at best been modestly reduced.

Now the findings on the impact of good teachers on student achievement, including the achievement of poor and minority students, show that school systems that have a strategy—such as the ones outlined above—to raise the average quality of their teachers could deploy these teachers in such a way as to put more good teachers to work in schools that serve predominantly poor and minority students. One way to achieve this goal would be to offer bonus pay to effective teachers who agree to teach in these schools. We do not believe that higher pay is the only reason why teachers might elect to teach in a school that presents special challenges, but it nonetheless provides a useful tool for boosting the quality of teaching received by poor and minority students.

A similar strategy could be used to attract teachers to difficult-to-staff fields such as math, science, and special education. Teachers with strong math and science skills often have good opportunities outside of teaching, yet their pay is the same as that of teachers in other fields where outside opportunities may be more limited. Additional salary or other benefits could attract more teachers to these difficult-to-staff fields. Other fields, such as special education, require either additional education or more difficult day-to-day work. Pay incentives for teachers in these fields may also be a productive way of increasing the pool of interested candidates.

Professional Development

Professional development is the final plank of our strategy to raise teacher quality. As Heather Hill shows in the new volume of *The Future of Children*, neither graduate course work nor most activities that now count as professional development are effective

in boosting teacher quality. In the case of graduate coursework, research fails to establish any relationship between graduate degrees and student learning unless the degree is in the field in which the teacher specializes, and even here the evidence is quite weak. Similarly, there is no correlation between student learning and workshops, institutes, and study groups for teachers.

But just because professional development is ineffective in its current forms, it does not follow that it cannot be improved and become an important part of a school system's approach to improving the average quality of its teachers. Hill recommends that professional development be reformed to comply with three guideposts: courses or workshops should be of at least several days duration; they should focus on subject-matter instruction; and they should have goals that are aligned with the goals and curriculum materials used by the school system in which the teacher works. School systems should stop providing incentives for teachers to get graduate degrees or participate in other professional development activities that do not demonstrably promote student learning. Professional development can also be promoted by mentoring arrangements between effective experienced teachers and new teachers and by follow-up activities such as booster sessions or classroom observations.

Professional development, including mentoring, is an important element of our plan both because it can help current teachers gain skills and knowledge that will help them improve their effectiveness in promoting student learning and, equally important, because it can help new teachers, including those who have nontraditional backgrounds, learn the goals, instructional strategies, and curriculum used by their new school system. For these reasons, districts should carefully plan their professional development activities and requirements and subject them to continuous oversight to ensure that they contribute to student learning.

Implementing the Plan

With the federal NCLB up for reauthorization this year, we believe that Congress could provide the incentive and part of the financing for selected schools to implement creative plans for improving

the quality of their teachers. School systems that want to develop such plans, involving any or all of the components outlined above, would develop proposals outlining their approach in detail. Congress would give the Secretary of Education the authority to solicit such grant applications and select the best ones for implementation and evaluation. The legislation would define each of the five plan components outlined above in broad terms so that school systems would have considerable flexibility in creating their approach to broadening entry requirements, identi-

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fying effective teachers, promoting only effective teachers, providing additional pay to effective teachers who teach in challenging schools, and promoting professional development.

The legislation should appropriate funds for two purposes. First, the Secretary should be authorized to provide funding to school systems to help offset the additional costs of implementing the plan for improving teacher quality. The amount allowed per school system would vary depending on school sys-

Additional Reading

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Charles T. Clotfelter, Helen F. Ladd, and Jacob L. Vigdor, "How and Why Teacher Credentials Matter for Achievement," paper presented at the World Bank conference on "The Contribution of Economics to the Challenges Faced by Education," Dijon, France, June 2006.

James Coleman and others, *Equality of Educational Opportunity* (Washington, D.C.: U.S. Department of Health, Education, and Welfare, 1966).

tem size, administrative structure, extensiveness of the plan, and so forth. If Congress were to appropriate up to \$50 million a year for five years, the Secretary could fund up to fifty demonstrations that average \$1 million each per year or twenty-five demonstrations that average \$2 million each. The Secretary would have the authority to determine how many demonstrations would be funded and at what level. Second, each demonstration would have to include an evaluation plan that would be a factor in the Secretary's selection of the best plans. The Secretary would have the authority to select up to four or five of the best and most important plans for high-quality evaluations by third-party firms that specialize in program evaluation. In these cases, the Secretary and the evaluation firm would work with the school system to expand and perfect the evaluation plan proposed by the school system, including the use of random assignment designs where feasible. In other cases, the Secretary would work with the selected school systems to develop an adequate evaluation that would ensure as much uniformity as possible across the school systems in describing interventions and reporting outcomes. The federal government would pay the cost of the major evaluations, requiring perhaps an additional \$5 million a year, bringing the total cost of the demonstrations to around \$55 million a year for five years or a grand total of \$275 million. The knowledge gained from these experiments would then be available to help other school systems develop effective plans for promoting teacher quality. If implementing our plan for boosting teacher quality is even modestly effective, this investment will pay for itself many times over.

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The Future of Children would like to thank the David and Lucile Packard Foundation, the Annie E. Casey Foundation, the Doris Duke Charitable Foundation, the W. K. Kellogg Foundation, the Spencer Foundation, and Carnegie Corporation of America for their generous support.