THE HAMILTON PROJECT

Advancing Opportunity, Prosperity and Growth

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Public education ultimately succeeds or fails based on the talent and skills of America's 3.1 million teachers in elementary and secondary schools. Everything else—educational standards, testing, school buildings, and school and district leadership—is background, intended to support the crucial interactions between teachers and their students.

Identifying Effective Teachers Using Performance on the Job

Traditionally, policymakers have tried to improve the effectiveness of the teacher workforce by raising certification requirements. Research shows, however, that these credentials have little to do with teaching excellence, as measured by student performance. Once teachers are hired, school districts do very little additional screening and commonly award tenure after two or three years, regardless of teachers' performance. Moreover, the most effective teachers generally receive no incentives to work in the poorest districts. These policies are particularly problematic because there is a large gap between the most effective and least effective teachers, and the most effective teachers are underrepresented in schools serving low-income youth.

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A NEW APPROACH

In a paper for The Hamilton Project, Robert Gordon, Thomas J. Kane, and Douglas O. Staiger propose a new five-point reform that would address these difficulties. It would increase the pool of potential teachers, make it tougher to award tenure to those who perform least well, and reward effective teachers who are willing to work in schools serving large numbers of low-income, disadvantaged children.

A Five-Point Plan to Identify Effective Teachers

What Makes a Good Teacher?

Typical teacher credentialing systems rely heavily on specific coursework and test scores. The federal No Child Left Behind Act, for example, requires all teachers of core academic subjects to be "highly qualified." They must have a minimum of a bachelor's degree, full state licensure and certification (which generally requires a degree in education), and competence in the subject areas they will teach, demonstrated by completing academic coursework or passing standardized tests.

Yet a growing body of research suggests that many such paper credentials have little to do with whether a teacher is effective, as measured by student achievement. For example, Gordon, Kane, and Staiger studied some 150,000 Los Angeles students in grades three through five from 2000 to 2003 and found no statistically significant achievement differences between students assigned to certified teachers and students assigned to uncertified teachers.

Other recent studies similarly have found that differences in teaching quality *between* certified and uncertified teachers are small compared with the differences in teaching quality *within* each group. In other words, there are good teachers and poor teachers, regardless of their certification. Much more relevant to predicting long-term performance is performance in the first few years of teaching.

Gordon, Kane, and Staiger conclude that good and bad teachers can be identified after only a year or two in the classroom. In particular, they find that teachers' performance during their first two years on the job provides a lot of information about their likely effectiveness in year three. On average, students assigned to third-year teachers who performed poorly during their first two years (in the bottom quarter of all teachers) lose ground relative to other students, whereas students of third-year teachers who performed well (in the top quarter) gain ground. In fact, students assigned to the best quarter of teachers ended up about 10 percentile points ahead of students assigned to the worst quarter of teachers.

In short, a considerable body of evidence shows the following:

- The effectiveness of teachers varies widely, even after adjusting for student's baseline test performance and other characteristics.
- Even with only two years of student performance data, a district can learn a lot about which teachers are likely to generate large student learning gains and which are not.
- Differences in teacher effectiveness are largely unrelated to whether a teacher is certified.

In response to this evidence, Gordon, Kane, and Staiger make recommendations for improving teacher effectiveness, including the removal of barriers to entering the teaching profession and making it more difficult to grant

tenure to those least effective on the job. They also aim to alter the distribution of high-performing teachers by encouraging more of the most effective teachers to work in high-poverty schools.

Recommendation 1: Reduce Entry Barriers

The central requirement of the No Child Left Behind Act related to teacher quality (Title II of the Elementary and Secondary Education Act) is that, by the close of the 2005-06 school year, teachers of core academic subjects be "highly qualified." Gordon, Kane, and Staiger propose broadening the definition of "highly qualified": under their approach, new teachers would still be required to have a four-year undergraduate degree and demonstrate content knowledge, but they would no longer be required to be certified. After two years' experience, teachers in the top half on a scale of teacher effectiveness would be deemed "highly qualified," regardless of whether they meet existing certification requirements.

Thus, novice teachers would have two routes into teaching: one would follow the current path leading to certification, and the other would be open to people who have an undergraduate degree and subject knowledge. School districts would of course remain free to screen for the additional qualities they believe are most important in the classroom.

Encouraging more recent college graduates and older professionals to try a teaching career, without first requiring them to take (or commit to taking) years of education school classes, should substantially expand the pool of eligible candidates. Evidence supporting this conclusion again comes from the Los Angeles Unified School District, which in 1997 needed to triple its hiring of elementary school teachers in accord with the state's class-size reduction initiative. The district accomplished this by hiring a disproportionate share of uncertified teachers. Strikingly, the district saw no reduction in overall teacher effectiveness.

> Teachers have a substantial impact on student performance. After a single year, students assigned to the best quarter of teachers ended up about 10 percentile points ahead of students assigned to the worst quarter of teachers.

Expanding the pool of eligible teachers is especially important because America's schools will soon face a growing teacher shortage. The median age of teachers in primary and secondary public schools increased from thirty-three in 1976 to forty-six in 2001. Some 40 percent of teachers in public schools plan to leave the profession within five years. At the same time, the U.S. Census Bureau projects that the school-age population will grow by 10 percent over the next twenty years.

Simply to maintain pupil-teacher ratios, the number of people entering teaching must increase by roughly 35 percent—back to recruitment levels not seen in almost

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forty years. Rather than dip further down in the pool of people willing to consider teacher certification programs or increase class sizes—either of which would compromise educational quality—our nation should expand the pool of people eligible to teach. Two strategies seem feasible, and both should be attempted: encourage young people to begin a teaching career without requiring that they invest in two years of education school and encourage older people to enter teaching as a second career.

Recommendation 2: Make It Harder to Tenure the Least Effective Teachers

Since paper qualifications are not very useful in identifying who will be an effective teacher, school districts will make some mistakes in choosing whom they hire. Even with high-quality mentoring and support, not all teachers will thrive. Studies show that if states or school districts were to link data about how well students perform and who their teachers were over time, they could predict more accurately which teachers are likely to be effective in the long term.

Even though school districts currently enjoy considerable discretion to discharge ineffective teachers during the first two years, they rarely do so. Less than 1 percent of public or private school teachers who changed schools cited being laid off or transferred as the reason.

Gordon, Kane, and Staiger propose offering high-quality professional development during the first two years of teaching and notifying teachers of their performance after their first year. The authors also propose a presumption that, after two years, the least effective quarter of new teachers should not qualify for tenure and should not continue teaching. Under the proposal, principals still would be able to extend tenure to new teachers classified in the bottom quartile (since measurement systems can wrongly classify some teachers), but only with a waiver from the district and notice to the public. This approach would apply only to new teachers, not existing teachers.

This proposal would not require changes to most existing tenure laws. It would, however, change current practices. Today, principals frequently do not deny tenure to ineffective teachers because doing so takes time and may invite conflict. Yet studies show that most teachers recognize that some teachers are not effective; Gordon, Kane, and Staiger's proposal would make it easier for schools to act on such recognition.

If a school system screened out the bottom quarter of new teachers, how much would student performance be expected to improve? Gordon, Kane, and Staiger report results from Los Angeles that suggest dropping this bottom quarter would result in a net increase in student test scores of as much as 14 percentile points by graduation.

The economic value of such an increase could be staggering. Gordon, Kane, and Staiger estimate the increase in career earnings from a 14 percentile point increase in achievement test scores to be from $72,000 to $169,000

per high school graduate. With some three million U.S. public high school graduates each year, the increase in career earnings nationally could be worth between $200 billion and $500 billion per year. Even if only one-fourth of this estimate were realized, the policy would still have a huge benefit to future workers and the economy.

Recommendation 3: Give Bonuses to Highly Effective Teachers Willing to Teach in Disadvantaged Schools

If current tenure practices screen out too few of the weakest teachers, current pay practices encourage too few of the strongest teachers to work in schools where they are needed most. Teacher salaries typically increase based on just two criteria—education and years of experience. Few school districts reward high-performing teachers, and then only modestly.

Higher salaries for excellent teachers are particularly critical in schools where a large share of children come from low-income families. At present, these schools tend to have the weakest teachers. The authors' Los Angeles data show that students in the poorest schools were more than 2.5 times as likely to have low-performing teachers than were students in the wealthiest schools.

Gordon, Kane, and Staiger recommend bonus pay for teachers who both:

- rank in the top quarter of effectiveness.
- work in schools where at least 75 percent of the students are from low-income families, based on eligibility for free or reduced-price school lunches.

Although there is no settled answer as to how large bonuses would have to be to attract good teachers to these schools, the authors recommend that the bonuses be substantial, around $15,000 a year. In a profession where salaries currently start around $30,000 and average about $45,000, this is a meaningful incentive.

Finally, higher salaries could attract more high-performing individuals to become teachers rather than go into other professions. As it is, studies have found that interest in teaching has waned as compensation for high performers has fallen relative to that of other professions.

Recommendation 4: Establish Systems to Measure Teachers' Job Performance

Each of the first three steps relies on a working definition of classroom effectiveness, which states and districts will need to implement. Gordon, Kane, and Staiger propose federal funding to help states and districts to develop these systems. Evaluation systems would rely substantially on objective measures where available, namely teacher impacts on student achievement, but also would use more subjective evaluations by principals, peers, and parents (particularly in grades or subjects where students are not tested). States and districts would be given considerable flexibility in designing their own evaluation systems as long as the estimated impact on student achievement (or "value-added") was a large component and teacher performance could be ranked into the top quarter, bottom quarter, and middle.

Recommendation 5: Track Student Performance and Teacher Effectiveness over Time

To adequately evaluate teachers' effectiveness, schools will need to track the performance of individual students from year to year and link those students with their teachers. Gordon, Kane, and Staiger therefore recommend that the federal government provide sufficient funding for all states to develop and implement longitudinal data systems that would enable development of such information.

A Five-Point Plan to Identify Effective Teachers

Recommendation 1: Reduce Entry Barriers

Recommendation 2: Make It Harder to Tenure the Least Effective Teachers

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Implementing the Five-Point Plan

Is there a "reserve army" of people who would be attracted to teaching, but don't want to commit to a full complement of education courses? The authors present evidence suggesting that the answer is "yes." New York City's Teaching Fellows program, geared to young and midcareer professionals, had 16,700 applicants for 1,850 spots. Similarly, Teach for America recently had 17,000 applicants for only 2,000 openings.

The Gordon, Kane, and Staiger proposal is consistent with many existing tenure laws and collective bargaining agreements. The authors do not suggest a wholesale shift to performance-based pay. Neither do they propose to revoke tenure for existing teachers or dismantle the system for future teachers. Their proposal may actually increase the legitimacy of tenure by helping to ensure that teachers clear a real hurdle before it is granted.

Nonetheless, these proposals for teacher recruitment, tenure, and incentive bonuses are significant departures from current practice. The authors therefore recommend that the federal government initially fund a three-year implementation of these measures in up to ten states. This means the federal government would pay for the implementation of new teacher evaluation systems, bonuses, and tenure policies. It also would modify No Child Left Behind provisions, enabling—and requiring—participating states to create a performance-based path to "highly qualified" status.

The results in the ten states should be carefully evaluated and the new policies adjusted based on their experience. If the concepts prove sound, these proposals should be implemented nationally.

Cost of Implementation

Gordon, Kane, and Staiger estimate that the trial of the plan in ten states and the development of a national data system would cost around $700 million to $800 million per year for the first five years. Once the program is rolled out nationally, the main components of their proposal would cost the federal government slightly more than $3 billion per year, mostly for teacher bonuses and operation of the data systems.

The authors recognize that the cost could ultimately prove higher for a variety of reasons. Even so, the cost would still be relatively small compared with the nearly $38 billion per year the federal government spends on K-12 education or with the large potential economic value of any resulting increases in student achievement.

CONCLUSION

At a time when a well-educated workforce is essential for the United States' future economic prosperity, the quality of the U.S. public school system is more important than ever. The most important ingredient of school quality is the teachers. Yet school districts rarely collect good information about teacher effectiveness and do not base tenure decisions on that data, even though data show that teacher effectiveness in the first few years on the job is a far better predictor of long-term teacher quality than teacher qualifications.

Gordon, Kane, and Staiger advocate a five-point plan that would use job performance, not paper credentials, to determine who is allowed to remain in the classroom, thereby improving teacher effectiveness and increasing the pool of people eligible to become teachers by removing entry barriers to the profession. They also propose an incentive plan to attract high-performing teachers to the nation's neediest schools and the creation of systems to assess and track teacher performance.

Precisely because most districts have never assembled the data required to calculate the "value-added" by individual teachers, and because human resource policies have focused on recruitment and certification, rather than selectively offering tenure, the payoff from revising these practices could be enormous. For a small fraction of current spending on K–12 education, this proposal could begin to change the way American schools recruit, award tenure to, and reward top-performing American teachers.

The Hamilton Project white paper discussed in this policy brief, *Identifying Effective Teachers Using Performance On the Job*, can be found at www.hamiltonproject.org. The paper was authored by:

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The Project is named after Alexander Hamilton, the nation's first treasury secretary, who laid the foundation for the modern American economy. Consistent with the guiding principles of the Project, Hamilton stood for sound fiscal policy, believed that broad-based opportunity for advancement would drive American economic growth, and recognized that "prudent aids and encouragements on the part of government" are necessary to enhance and guide market forces.

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