

The Engine of Successful Education Reform: Effective Teachers and Principals

A Public Hearing at the Colorado State Capitol Building's
Old Supreme Court Chambers

Denver, Colorado
October 28, 2009



While most agree that all children deserve good teachers, how to identify effective teachers—and how to attract, prepare, reward, and retain them, much less remove those who do not improve—remains fraught with controversy. Yet, improving teacher effectiveness could not be more important: Research shows that teacher quality is the single most important school factor affecting student achievement, particularly in schools with a high proportion of low-income students.ⁱ One well-known study found that having effective teachers three years in a row enabled students to outperform by 50 percentile points peers who started at the same score.ⁱⁱ Put in practical terms, this can mean the difference between going to an Ivy League college and not graduating from high school.ⁱⁱⁱ Unfortunately, effective teachers and principals are systemically less available to poor and minority children than to children in schools with more resources.

“The silver bullet is [getting] a lot more highly effective teachers and principals in the classrooms.”
—Commissioner Mike Johnston,
Colorado State Senator and Senior Policy Advisor
to New Leaders for New Schools

In 2007, the Commission called for a major shift in the way we measure teacher quality—from evaluations based on qualifications to those based significantly on classroom results.^{iv} States continue to develop the sophisticated data systems needed to measure individual student growth and teacher and principal effectiveness, and now, American Recovery and Reinvestment Act (ARRA) funds may fuel additional progress in improving teacher and principal effectiveness. The potential for dramatic improvements in student achievement is great—but there is much work to do to identify, attract, reward, and retain effective teachers and principals.

To better understand how we can attract and keep strong leaders and excellent teachers, the Aspen Institute’s Commission on No Child Left Behind held the second in a series of public hearings at the State Capitol Building in Colorado, a state that is widely considered a leading contender to win “Race to the Top” funding under ARRA given its comprehensive reform record and agenda.

Witnesses who shared their expertise on improving teacher and principal effectiveness included leaders at the school, district, and state levels, and from higher education, a national teacher union and academia. Regardless of perspective, witnesses agreed that a greater focus on improving teacher and principal effectiveness is urgently needed and that what matters most is performance in the classroom. They outlined the inefficiencies in human capital policy and practice that are rampant at all levels and emphasized the importance of differentiating among teachers and school leaders in order to encourage and reward excellence and promote better student outcomes.

To access the witnesses' testimonies and view a complete video of the proceedings, visit <http://www.aspeninstitute.org/policy-work/no-child-left-behind/events>.

As it develops updated recommendations for the upcoming reauthorization of the Elementary and Secondary Education Act (ESEA, currently known as the No Child Left Behind Act), the Commission will continue to examine information on this and other topics from a variety of sources, including testimony at future hearings, comments sent to the Commission, quality research, and discussions with experts and stakeholders. To provide information for the Commission's consideration, please visit www.nclbcommission.org and select "Your NCLB Comments."

Emerging Issues

- ›› NCLB's input-driven "Highly Qualified Teacher" requirements do not measure teachers' effectiveness in the classroom.
- ›› Student achievement data should be the leading—but not the only—component of any measure of effectiveness.
- ›› Strong leadership is essential to a successful school, but many principals do not have the training or tools they need to make strategic use of data to effectively evaluate and support teachers, manage their schools, and lead difficult or aggressive change when necessary.
- ›› The quality of teacher preparation varies widely and must be significantly improved.
- ›› We must be transparent about the success in improving student achievement of teachers from various preparation institutions and programs.
- ›› Teacher and principal evaluation must be transformed from a "check the box" approach to a meaningful professional activity that not only provides important feedback for improvement, but also enables more strategic personnel and instructional decisions.
- ›› We should reward teachers who excel, more effectively help many teachers get on the track to excellence, and remove those who consistently do not improve from the classroom.
- ›› We must provide all teachers with targeted professional development, informed by student performance data, that helps them better meet students' needs.
- ›› Principals should be held accountable for improvement, but need the authority and flexibility to make necessary changes.
- ›› We should use the information and tools available to us now to make more informed decisions as we work toward increasingly refined measures of effectiveness.
- ›› Tenure should be a significant milestone that successful teachers earn—not a nearly automatic benefit.

Witnesses Who Testified

- › › Hon. Barbara O'Brien, Lieutenant Governor, Colorado
- › › Mr. Tom Boasberg, Superintendent, Denver Public Schools
- › › Mr. Dennis Van Roekel, President, National Education Association
- › › Dr. F. King Alexander, President, California State University, Long Beach
- › › Ms. Aqua Stovall, Principal, Arthur Ashe Charter School, New Orleans, LA
- › › Dr. Dan Goldhaber, Research Professor on Reinventing Public Education, University of Washington, Seattle, WA

Highlights from Witnesses' Testimony

Colorado Lieutenant Governor **Barbara O'Brien** urged the Commission to view ESEA reauthorization as an opportunity to build partnerships between the federal, state and local levels—with maximum flexibility at the local level—to more effectively drive improvements in student performance. She discussed the importance of having a coherent, student-centered state reform strategy focused on outputs, not inputs. Committed, effective educators and a willingness to challenge the status quo are central to the success of that strategy, she noted: “We can set rigorous standards, but they’re meaningless without great teachers and leaders provided with effective professional development to teach to new standards.... Turnaround won’t work if we don’t rethink how we structure the school day [and] year.”

Colorado has streamlined alternative licensure programs, authorized differentiated pay models, and developed data systems and a growth model for measuring student achievement. But the state’s teacher preparation is “very spotty,” according to O'Brien, who supports improving teacher preparation standards and increasing hands-on experience and mentoring for new teachers. The state is also in discussions with the Colorado Education Association regarding changes to the teacher evaluation system, and is conducting extensive outreach to build support for its Race to the Top proposal, O'Brien said.

Denver Superintendent **Tom Boasberg** stressed the need to be willing to differentiate among teachers in evaluations, compensation, pensions, and other areas, noting that “the systems and practices and cultures we have aren’t working.” Such distinctions often are not made, he said, noting recent research showing that the overwhelming majority of teachers get the same rating, and given the lack of a direct correlation between teachers’ performance and tenure decisions. Boasberg suggested that evaluations should focus on developing teachers, but should not become “gotcha” systems that identify but do not remedy underperformance. More must be done to recognize, reward, and retain outstanding teachers and those who work in high-need schools, including through performance pay, he said, and to remove low-performing teachers from the classroom.

“The best-crafted policies aren’t going to make a difference [in] student performance if we don’t have different ways of maximizing human capital — not only [for] educators ... but also [for] students.”
—Barbara O'Brien, Colorado Lieutenant Governor

Boasberg also recommended allowing multiple paths to the classroom to broaden and deepen the teacher talent pool; the city currently taps recruits from Teach for America, the Denver Teacher Fellows Program, and the Denver Urban Teacher Residency Program. Reform must be done collaboratively between schools and teachers and with a willingness to “[put] down traditional models and shields,” he said, citing the city’s

ProComp performance pay program as an example.

Dennis Van Roekel, President of the National Education Association, agreed that teacher evaluations and tenure must be more meaningful, and noted that most states do not require principals to have training in conducting evaluations. But he argued that removing teachers

“Today, students’ success in school depends in large part on the zip code where they live and the educators to whom they are assigned.”

—*Dennis Van Roekel, President, National Education Association*

“who shouldn’t be there” will do nothing to change the educational system. Instead, he suggested, effort should be focused on vastly improving methods of training, inducting, supporting and evaluating teachers, including providing teachers time in the workday to analyze their own methods and impact.

Van Roekel said the union does not support a “single-test measure” of teacher effectiveness, but does support using the results of various types of assessments as evidence of student learning within a system of multiple measures. He questioned whether student learning can be attributed to an individual teacher and noted that tests do not capture some important indicators of success, such as the professional skill of adapting instruction while reading students’ faces to determine whether they understand the material being taught. Van Roekel acknowledged that research shows that the master’s degrees for which many teachers earn additional pay do not increase their ability to raise student achievement, but suggested that Finland’s master’s in pedagogy degrees be considered a model.

Van Roekel emphasized the importance of having good principals in every school, noting that surveys indicate that strong, supportive leadership trumps financial considerations in teachers’ decisions to remain in the classroom. To recruit and retain teachers, he recommended pay incentives, including those tied to working conditions and professional opportunities.

President of California State University, Long Beach **F. King Alexander** described Cal State’s system-wide effort to evaluate the performance of its teacher education programs. Alexander emphasized that the responsibility for producing capable teacher graduates rests not with education schools, but with the universities that house them—and that this is the primary mission of Cal State, the largest supplier of teachers in the nation. Rather than assuming its graduates were proficient, Cal State began surveying the school districts that hired its teachers nine years ago and has used their feedback to continuously improve its preparation programs and identify which are most effective. In partnership with these districts, Cal State is extending the analysis to include longitudinal data in order to identify the value-added impact its education school graduates have on student achievement during their first year in the classroom and to inform program improvement—an effort rarely undertaken elsewhere, with

Qualities of Effective Teachers

Witnesses suggested that effective teachers:

- › › Have in-depth content knowledge
 - › › Tailor their instruction for students’ varied learning needs and styles
 - › › Understand technology
 - › › Have strong classroom management skills
 - › › Can quickly adapt in the classroom to adjust instruction
 - › › Collaborate and partner with colleagues, families, and communities
 - › › Strive to overcome barriers impacting student achievement
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the notable exception of an aggressive statewide effort in Louisiana.^v

Alexander noted that Cal State’s evaluation is two-way: teacher graduates are also surveyed about their preparedness for the job. The system offers an innovative warranty program to provide teachers free retraining to remedy preparation deficiencies that they or their districts identify. Underscoring the need to better identify which teachers are most effective, Alexander lamented that seniority, not performance, determines which teachers survive layoffs in tight budget times.

Aqua Stovall, principal of Arthur Ashe Charter School in New Orleans, described principals’ responsibility to create a culture of success in schools and the support they need to succeed. Principals, she said, must demonstrate a strong sense of mission and teamwork and empower and support teachers. This is particularly critical in combating burnout and retaining hard-working teachers in a high-need urban environment like New Orleans, she stated. In building an effective staff, principals need access to a strong talent pool, including alternate-route teachers, she stated. Principals should develop staff members and help them to use data to drive instruction and to reflect on their methods. Stovall also noted that her school does not

“Schools have to make teachers feel like they are set up for success.”
—Aqua Stovall, Principal, Arthur Ashe Charter School

have tenure because even veteran teachers must continually improve their practice.

Qualities of Effective Principals

Witnesses suggested that effective principals:

- › › Demonstrate strong leadership and management skills
 - › › Establish a culture of excellence and clear expectations for students and teachers
 - › › Build and retain an effective staff
 - › › Empower and support teachers and give helpful feedback for improvement
 - › › Foster collaboration and teamwork
 - › › Know how to use data and encourage teachers to use it
 - › › Spend time in classrooms daily
 - › › Understand the laws and policies that impact their schools
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Stovall highly values her autonomy as a charter school principal, calling it “the best thing in the world at my school.” But she noted that not all principals enjoy such autonomy, and that too often districts do not provide them the training and assistance needed to make an often overwhelming job more manageable.

Dan Goldhaber, Research Professor at the University of Washington’s Center on Reinventing Public Education, argued that we should differentiate among teachers based on outcomes rather than inputs like licensure, degree level, and experience, which do not provide a good indication of teachers’ ability to spur academic growth among their students. Goldhaber believes that using test-based value-added measurement systems (VAMs) to estimate teacher impacts “offers the promise of a much tighter connection between teacher policies and investments and student achievement”—but that their utility depends in part on the quality of the assessments underlying them. He added that VAM may serve as an “honest broker” to test the validity of subjective assessments like principal or peer observations, including indirectly in subject areas not covered by state accountability assessments (such as by raising questions if teacher ratings only vary in grades and subjects measured by

VAM tests).

According to Goldhaber, tests and VAMs are imperfect, like any measure, but are superior to and more accurate than the status quo—and therefore not be held to a higher standard of evidence. While VAMs raise the possibilities of bias and measurement errors, Goldhaber noted there are statistical adjustments and policy choices that may help address or compensate for such problems, and that many of the current input-based teacher policies (such as cut scores on licensure exams) suffer from the same difficulties.

Goldhaber suggested that principal effectiveness could be measured using performance data, analyses of the school environment principals create, and measures of effective staff management, including recruitment, development, and retention.

Witnesses' Recommendations for ESEA

- Build results-based partnerships between the federal, state, and local levels rather than focusing on inputs
- Increase flexibility at the local level
- Encourage value-added measurement of teacher and principal effectiveness
- Improve teacher preparation and provide incentives to states that create world-class preparation programs
- Monitor the effectiveness of teacher education program graduates
- Encourage multiple pathways into the classroom
- Use student improvement data to provide targeted professional development
- Improve teacher evaluation to differentiate among teachers and focus on development
- Ensure principals are better supported and have autonomy to make decisions
- Expand strategic use and deployment of school leadership initiatives
- Align teacher and principal compensation with performance
- Reward teachers who work in high-need schools
- Create a rigorous assessment for entry into the teaching profession
- Create a national institute to provide a rigorous master's degree in education to top students
- Provide financial incentives and higher salaries to enter the teaching profession and teach in shortage subjects or high-need areas
- Develop “grow-your-own” teacher recruitment programs, urban teacher residencies, and teacher residency academies

For Further Discussion

The Commission is seeking further comments from interested individuals and organizations on these topics:

- How should teacher effectiveness be measured in high schools as compared to elementary schools, given the more specialized content and greater number of teachers interacting with students at the secondary level?

- Are there special considerations for measuring teacher effectiveness for teachers of English Language Learners or students with disabilities?
- How should teacher effectiveness be measured for teachers whose subjects are not covered by a state accountability test?
- What are the key elements of a principal accountability structure?
- What tools and training do principals need in order to better support teachers and lead their schools?
- How can federal law best leverage improved teacher and principal effectiveness?

Comments may be submitted via the Commission’s website, www.nclbcommission.org (select “Your NCLB Comments”).

What NCLB Currently Requires

NCLB attempts to strengthen teacher quality and eliminate disparity in the distribution of qualified teachers by requiring states to ensure that all teachers were highly qualified by the end of the 2005-06 school year. To achieve “Highly Qualified Teacher” (HQT) status, a teacher must (1) possess state certification or licensure, (2) have a B.A. degree or higher, and (3) demonstrate knowledge of the subjects they teach.

In response to concerns that the HQT requirements were unworkable in some situations, particularly where there are shortages of teachers, the U.S. Department of Education issued rules and guidance to provide state flexibility. For instance, teachers in some rural school districts are provided professional development and given additional time to meet HQT standards, science teachers are permitted to have a general science certification rather than a certification in a particular science discipline, and special education teachers have different qualifications to meet under changes made in the 2004 reauthorization of the Individuals with Disabilities Education Act.

NCLB also includes language designed to ensure that highly qualified teachers are distributed equally across all schools. The law requires states and districts to publicly report progress on ensuring that low-income and minority students have access to highly qualified teachers. Through their Title I plans, districts must “ensure ... that low-income students and minority students are not taught at higher rates than other students by unqualified, out-of-field or inexperienced teachers.”

A comparability provision requires that services offered in Title I schools must, as a whole, be at least comparable to services provided in schools that do not receive Title I funding. This most often accounts for teacher salaries, and the provision can be met by providing an assurance that the district has a salary structure that applies the same rules for hiring and promotion for all teachers and all schools in the district.

Requirements in the Stimulus Law

The American Recovery and Reinvestment Act (ARRA) provides significant fiscal support to states and requires states accepting that funding to make progress on critical education reforms—commonly known as the four “assurances”—including improving teacher effectiveness, data systems, standards and assessments, and turning around the lowest-performing schools. The law requires states not only to improve teacher effectiveness, but also to address two NCLB goals: eliminating inequities in the distribution of highly qualified teachers between high- and low-poverty schools, and ensuring that low-

income and minority children are not taught at higher rates than other children by inexperienced, unqualified, or out-of-field teachers.

States must also develop longitudinal data systems that include student and teacher identifiers, which are necessary to measure teacher effectiveness and inform related policies at the state or district level. States have made significant but uneven progress in developing and improving data systems in recent years. According to the Data Quality Campaign, 48 states reported having a unique statewide student identifier in 2008, while only 21 states reported having teacher identifier systems to match teachers to students by classroom.^{vi}

The Race to the Top Fund (RTTT). \$4.35 billion was authorized for this ARRA competitive grant program to drive substantial gains in student achievement. States applying for and receiving grants through this program must demonstrate progress in and a comprehensive approach to addressing all four policy assurances noted above. The U.S. Department of Education's requirements for RTTT include a number of criteria related to states' progress in and plans for improving teacher and principal effectiveness, such as:

- Providing alternative pathways for aspiring teachers and principals;
- Improving teacher and principal effectiveness based on performance, including student growth as a significant factor;
- Ensuring equitable distribution of effective teachers and principals;
- Improving the effectiveness of teacher and principal preparation programs; and
- Providing effective support to teachers and principals.

State Fiscal Stabilization Fund (SFSF). \$48.6 billion in formula grants for all states was authorized under ARRA for the purpose of saving jobs and advancing education reform. In order to receive the initial round of SFSF funding (which was released in summer 2009), all governors pledged to improve teacher effectiveness and make progress on the other three policy assurances. The reporting requirements that states and districts must meet in order to receive the remaining SFSF funding include descriptions of how teachers and principals are evaluated; how this information is used to support, retain, promote, or remove staff; whether student achievement or growth data are used as an evaluation criterion; and other information.

Key Issues in Improving Teacher and Principal Policy Architecture

The percentage of core academic classes taught by HQTs has risen since NCLB's passage, and by the 2007-2008 year, ninety-five percent of core classes were taught by HQTs—an increase of more than eight percentage points.^{vii} However, because it is entirely based on qualifications, “highly qualified” status is not an indicator of a teacher's effectiveness in the classroom. There is no comparable measure of principal quality.

As a nation we spend hundreds of billions of dollars each year on teacher salaries, benefits, and professional development, but do very little to ensure that we attract, prepare, support, and retain effective teachers who help students to make the most progress, and remove those who do not improve. Following is a brief snapshot of these key issues.

Preparation

The quality of most university-based teacher preparation programs is lacking. A multi-year study by Arthur Levine, former president of Columbia University's Teachers College, identified several model programs but found that most programs have low admissions and graduation standards and are "largely ill equipped to prepare current and future teachers for new realities."^{viii} The National Council on Teacher Quality has asserted that many education courses are not rigorous enough and reflect low expectations for students.^{ix} Once teachers receive a teaching license, very little is done to track their growth and effectiveness.

Evaluation

In most cases, teacher evaluation is not used as a tool for improvement or feedback. Seventy-three percent of teachers responding to an independent survey in 2007 said their most recent evaluation was either "just a formality" or "well-intentioned but not particularly helpful."^x Only twenty-three states require that new teachers be evaluated more than once a year, leaving new teachers with little formal guidance and feedback.^{xi} Nine states require no feedback and only four states require feedback for new teachers to be given timely enough to impact their teaching.^{xii} Hope Street Group notes that administrators often are not trained to conduct evaluations—and current limitations on actions that can be taken on the basis of teacher evaluations limit schools' incentive to conduct them in a meaningful and transparent manner.^{xiii}

According to *The Widget Effect*, a four-state study by The New Teacher Project (TNT), school district policies tend to assume classroom effectiveness is the same from teacher to teacher, creating an environment where teachers are viewed as interchangeable parts rather than individual professionals. The findings showed that in teacher evaluations using a binary system of satisfactory or unsatisfactory ratings, more than ninety-nine percent of teachers were rated satisfactory; in districts with a wider rating system, less than one percent are rated unsatisfactory.^{xiv} When teacher evaluations fail to differentiate among high and low performers, TNT notes, excellence goes unrecognized, professional development needs go unmet, and poor performance goes unaddressed.

Professional Development

Despite the billions of dollars spent on professional development each year, little empirical evidence exists on its effectiveness.^{xv} Of the nearly \$3 billion in federal funding per year appropriated for Title II-A of NCLB (which authorizes a wide range of activities to improve teacher and principal quality), 39% supported professional development activities, yet as Education Sector reports, "tangible results from [Title II funding] are scant," and "there is little evidence of professional development initiatives improving student learning outcomes at any scale."^{xvi} The Center for American Progress notes that "much of what counts as professional development is fragmented and not sufficiently focused on strategies for improving classroom instruction in specific content areas or even linked to school and district improvement plans.... Moreover, many teachers still attend short-duration 'one-shot' workshops that offer no follow-up to help them implement new strategies in the classroom."^{xvii} The National Education Association agrees, stating recently that "most professional development is disjointed... And too often, professional development offerings do not address teachers' needs. With little consideration given to differentiating professional development, novice teachers and experienced teachers often attend the same sessions that may not help either to improve their practice."^{xviii}

Tenure

Tenure systems generally grant teachers permanent employment status without regard to demonstrated effectiveness in teaching. Before awarding tenure only two states require any evidence of effectiveness in the classroom, and forty-three states allow teachers to earn tenure in three years or less.^{xxix} Three states award tenure after just one year in the classroom.^{xxx} Eighty-one percent of administrators and fifty-eight percent teachers interviewed as a part of *The Widget Effect* said they knew of at least one tenured teacher in their school who is performing poorly, and forty-three percent of teachers said there is a tenured teacher they knew of who should be dismissed for poor performance—and the percentages were higher in high-poverty schools. Yet, the process of firing a tenured teacher can be so costly and difficult—and unsuccessful—that many principals do not even attempt it.^{xxxi}

Compensation

Most teachers' salaries are tied to years of teaching experience and educational credits rather than results with students, and are thus unable to be used as a managerial lever in school systems. Although research shows that teachers respond to monetary incentives, “few school systems strategically use compensation as a policy tool to achieve various objectives: a fairer allocation of teacher quality across students, hiring and keeping teachers with key knowledge and skills, and increasing student achievement via measurable results.”^{xxii} While there are many complexities associated with performance pay in the education context, research and growing experience suggests it holds promise. Vanderbilt University researchers who studied performance-pay programs with a treatment-and-control design found them effective: all had positive effects on the outcome tied to the incentive, though further experiments and research are needed to determine the optimal structure of such programs.^{xxiii} Fortunately, a variety of initiatives are underway across the nation: 20 states support some form of teacher performance pay, although only 16 explicitly connect it to evidence of student achievement.^{xxiv} Some of these efforts are being supported by the Teacher Incentive Fund, which began awarding federal funding in 2007 to bolster state and local efforts to develop and implement performance-based compensation systems that reward teachers and principals for raising student achievement and serving in high-need schools.

Principals

Efforts to improve teacher effectiveness and student achievement will be hampered without accompanying action to promote strong leadership in schools. Research shows strong school leadership is the catalyst for improvement and the main reason teachers stay in difficult schools, yet most states do not have a leadership development system, and university-based programs are weak.^{xxv} In a 2005 study, former Teachers College president Arthur Levine found that university-based school-leadership programs “are engaged in a ‘race to the bottom,’ in which they compete for students by lowering admission standards, watering down coursework, and offering faster and less demanding degrees.”^{xxvi}

According to the Wallace Foundation, “preparation must catch up to the real-world demands facing today’s principals,” and prepare them to be instructional leaders, to understand data, and to raise student achievement in addition to their traditional responsibilities as building and crisis managers.^{xxvii} The Foundation reports that preparation is improving as nontraditional leadership programs expand and as more universities and districts work to ensure that university program graduates’ skills meet local needs. As with teachers, many principals do not get the support or professional development they need, and their evaluation is viewed as a formality rather than an opportunity for feedback and improvement.^{xxviii}

However, according to New Leaders for New Schools, “in increasing numbers of individual schools across the country, a new kind of principalship is taking hold and producing well-documented breakthrough results for children.”^{xxix} These schools are “led by principals who have carved out a radically new role for themselves, including responsibility for school-wide practices to drive both student achievement and teacher effectiveness.”^{xxx}

About the Commission

The Commission on No Child Left Behind is a bipartisan effort to identify and build support for improvements in federal education policy to ensure the Nation has effective tools to spur academic achievement and close the achievement gap. Following a comprehensive review process with extensive public input, the Commission in 2007 released a blueprint for strengthening the landmark No Child Left Behind Act (NCLB) by preserving the law’s core principles and making needed changes to accelerate progress toward achieving its goals, particularly in the areas of teacher and principal effectiveness, robust accountability and data, higher academic standards, stronger high schools, and increased options for students. The Commission will continue to advocate bold reform during the NCLB reauthorization process and consideration of related measures in pursuit of an excellent education for all children.

The Commission is funded by some of the nation’s leading foundations, including the Bill & Melinda Gates Foundation, Carnegie Corporation of New York, the Joyce Foundation, and the GE Foundation. The findings, interpretations, and conclusions expressed in the Commission’s work should not be attributed to the donors.

ⁱ The Education Trust (2004). “The Real Value of Teachers: If Good Teachers Matter, Why Don’t We Act Like It?” *Thinking K-16*, vol. 8, no. 1. <http://www2.edtrust.org/NR/rdonlyres/5704CBA6-CE12-46D0-A852->

ⁱⁱ Sanders, W. and Rivers, J. (1996). “Cumulative and Residual Effects of Teachers on Future Students Academic Achievement.”

<http://www.mccsc.edu/~curriculum/cumulative%20and%20residual%20effects%20of%20teachers.pdf>.

ⁱⁱⁱ Starzyk, E. and Stephens, S. (2008). Cleveland Plain-Dealer. “Darling-Hammond says pressure is mounting to reform teacher training,” <http://ed.stanford.edu/suse/faculty/displayFacultyNews.php?tablename=notify1&id=817>

^{iv} The Commission on No Child Left Behind (2007). *Beyond NCLB: Fulfilling the Promise to Our Nation’s Children*. Washington, DC: The Aspen Institute. <http://www.aspeninstitute.org/policy-work/no-child-left-behind/beyond-nclb>

^v Anderson, N. (2009). “Louisiana Serves as Model in Teacher Assessment,” *The Washington Post*. http://www.washingtonpost.com/wp-dyn/content/article/2009/12/12/AR2009121202631_pf.html

^{vi} Data Quality Campaign (2008). “2008 DQC Survey.” <http://www.dataqualitycampaign.org/survey/elements>

^{vii} U.S. Department of Education (2009). “A Summary of Highly Qualified Teacher Data.”

<http://www.ed.gov/programs/teacherqual/data2009.doc>

^{viii} Levine, A. (2006). “Educating School Teachers.” Education Schools Project.

http://www.edschools.org/pdf/Educating_Teachers_Report.pdf

^{ix} National Council on Teacher Quality (2006). “What Education Schools Aren’t Teaching about Reading and what Elementary Teachers Aren’t Learning.” http://www.nctq.org/nctq/images/nctq_reading_study_app.pdf

^x Duffett, A., Farkas, S., Rotherham, A.J., and Silva, E. (2008). “Waiting to Be Won Over: Teachers Speak on the Profession, Unions, and Reform.” Education Sector.

http://www.educationsector.org/usr_doc/WaitingToBeWonOver.pdf

^{xi} National Council on Teacher Quality (2008). “2008 State Teacher Policy Yearbook; What States Can Do To Retain Effective New Teachers.” <http://www.nctq.org/stpy08/>

^{xii} Ibid.

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- xiii Hope Street Group (2009). "Policy 2.0: Using Open Innovation to Reform Teacher Evaluation Systems." <http://www.hopestreetgroup.org/content/images/stories/documents/policy2.0policypaper.pdf>
- xiv Weisberg, D. (2009). "The Widget Effect; Our National Failure to Acknowledge and Act on Differences in Teacher Effectiveness." The New Teacher Project. <http://widgeteffect.org/>
- xv Chait, R., Miller, R. (2009). "Ineffective Uses of ESEA Title II Funds," Center for American Progress. http://www.americanprogress.org/issues/2009/08/esea_funds.html
- xvi Rotherham, A.J. (2008). "Title 2.0: Revamping the Federal Role in Education Human Capital." http://www.educationsector.org/usr_doc/Title_2.pdf
- xvii Jerald, C. (2009). "Aligned by Design: How Teacher Compensation Reform Can Support and Reinforce Other Educational Reforms." Center for American Progress. http://www.americanprogress.org/issues/2009/07/pdf/teacher_alignment.pdf
- xviii National Education Association (2009). "Comments on Race to the Top Fund." <http://www.nea.org/bare/35447.htm>
- xix National Council on Teacher Quality (2008). "2008 State Teacher Policy Yearbook; What States Can Do To Retain Effective New Teachers." <http://www.nctq.org/stpy08/>
- xx Ibid.
- xxi Song, J. (2009). "Firing Tenured Teachers Can Be a Costly and Torturous Task." Los Angeles Times. <http://www.latimes.com/news/local/la-me-teachers3-2009may03.0.679507.story>
- xxii Goldhaber, D. (2009). "Teacher Pay Reforms; The Political Implications." Center for American Progress. http://www.americanprogress.org/issues/2006/12/pdf/teacher_pay_report.pdf
- xxiii Center for American Progress (2009). "Recent Evaluations of Performance-Pay Programs." http://www.americanprogress.org/issues/2009/07/pdf/performance_pay_memo.pdf
- xxiv National Council on Teacher Quality (2008). "2008 State Teacher Policy Yearbook; What States Can Do To Retain Effective New Teachers." <http://www.nctq.org/stpy08/>
- xxv The Wallace Foundation (2009). "The Principal Story Conversation Guide; Leadership Matters: A Call to Action." www.wallacefoundation.org/principalstory
- xxvi Levine, A. (2005). "Educating School Leaders." Education Schools Project. <http://www.edschools.org/pdf/Final313.pdf>
- xxvii The Wallace Foundation (2009). "The Principal Story Conversation Guide; Leadership Matters: A Call to Action." www.wallacefoundation.org/principalstory
- xxviii Ibid.
- xxix New Leaders for New Schools (2009). "Principal Effectiveness: A New Principalship to Drive Student Achievement, Teacher Effectiveness and School Turnarounds." http://www.nlms.org/documents/uef/nlms_case_study_driven_by_data.pdf
- xxx Ibid.