



## Teaching Effectiveness and The Conditions That Matter Most in High-Needs Schools: A Policy Brief

Barnett Berry, Alesha Daughtrey, and Alan Wieder

November 2009

### The Teaching Effectiveness Debate

Over the last decade, policy and business leaders have come to know what parents have always known: teachers make the greatest difference to student achievement. With new statistical and analytical methods used by a wide range of researchers, evidence has been mounting that teacher quality can account for a large share of variance in student test scores.<sup>1</sup> The evidence on the distribution of qualified and effective teachers is also clear — and the findings are not good. Teachers who have met the demanding standards of National Board Certification and those who have generated higher “value-added” student achievement gains are far less likely to teach economically disadvantaged and minority students.<sup>2</sup> As a result, high-poverty schools are more likely to be beset with teaching vacancies in math and special education,<sup>3</sup> and much more likely to staff classrooms with out-of-field, inexperienced and less prepared teachers.<sup>4</sup>

Simply stated, the teaching quality gap explains much of the student achievement gap.

While most researchers and policy analysts agree about the primary role that teachers play in advancing student achievement,<sup>5</sup> they are often at odds over the best means to identify effective teachers and improve teaching effectiveness. Much controversy swirls around the relationship between the quality of teacher preparation and a teacher’s subsequent effectiveness. Specifically, there is competing evidence concerning the need to recruit more academically able teachers, the primacy of subject matter expertise over pedagogical preparation, and whether teaching experience and education degrees matter for student achievement.

The popular media has fueled the debate. Many highly visible journalists have sided with the self-styled reform camp, calling for disbanding university-based teacher education and state certification regimes and focusing instead on recruiting talented individuals from competitive colleges with the right “personality” to teach effectively.<sup>6</sup> These calls have been made with some fervor, fueled by less-than-careful bloggers and journalists who often cherry-pick evidence and partial research findings to make their claims.

Despite the growing complexity of teaching in the 21<sup>st</sup> century, some journalists have gone so far as to propose that effective teachers are born, not made — and *the* key to school reform is attracting more of the “right” people into teaching. For some, like Nicholas Kristof of the *New York Times*, education schools do not offer much more than “secret snake-charming skills” to prospective teachers.<sup>7</sup> For others, like Jay Mathews of the *Washington Post*, experienced teachers are more likely to be a liability than an asset.<sup>8</sup> For them and many other vocal opinion-makers, school reform in high-needs schools is best driven by young, talented teachers who teach for a few years before they move on to more ambitious or lucrative careers.<sup>9</sup>

In sum, the argument is that preparation — even for teaching in our most challenged public schools — is not really needed. What needs to be learned can be accomplished in a few weeks or months — and preferably not by the universities that have traditionally prepared teachers.

### **Unpacking the Evidence on Teacher Preparation and Effectiveness**

There is no shortage of research reports on teacher and teaching effectiveness. Bundles of them are released each year by a variety of institutes and think tanks — many revealing particular biases in the way questions are framed and data are assembled. Some scholars have noted that researchers often draw on “differing notions of evidence” in conducting such studies, noting that their conclusions may be driven by different ideologies and “assumptions about the purposes of schooling” in American society.<sup>10</sup>

Our review here is not meant to offer definitive claims, but to set a context for a better understanding of the evidence on teaching effectiveness. Our brief discussion, while more illustrative than exhaustive, points out problems with the conventional wisdom about what makes a teacher effective in a high-needs school.

#### ***Debate 1: How much does a teacher’s own academic ability matter for teacher effectiveness?***

Most research studies do support claims that academic ability is important for teachers to possess and that formal teacher preparation and teaching experience may have only modest effects on student achievement test results. But consumers of these investigations need to read the fine print. For example, a number of researchers have pointed to a teacher’s own test scores (e.g., on the Scholastic Aptitude Test) and personal traits such as energy and enthusiasm as predictors of effective teaching.<sup>11</sup> In some ways, this is common sense. However, most studies show a relatively minor relationship between a teacher’s verbal skills and her students’ own standardized test scores.<sup>12</sup> Overall, the proportion of the variance in student achievement that researchers ascribe to a teacher’s academic prowess is small in comparison with other factors such as preparation.

#### ***Debate 2: Does teacher preparation really matter for teacher effectiveness?***

Traditional teacher preparation is often denigrated because much of the related research on teacher education is muddied by poor designs and variable specification.<sup>13</sup> For example, in one study, researchers compared young recruits from a well-known alternative certification program with traditionally prepared young teachers in the same high-needs schools and found that the alternate-route teachers produced greater achievement gains for their students.<sup>14</sup> Importantly, the gains were only in math, and not all that significant; reading gains were the same for both groups. More to the point, a close examination of the study revealed that the alternative certification recruits actually had more practice-based teacher preparation, mentoring, and pedagogical coursework than their traditionally certified peers.<sup>15</sup> Other studies have shown that alternatively trained teachers who had very limited pedagogical coursework before they began to teach actually *lowered* their students’ achievement scores over the course of the academic year.<sup>16</sup> These findings and other research suggest that pathways into teaching — alternative or traditional — do not matter as much for student achievement as *the quality of the training*,

especially the quality of a trainee's student-teaching experience and how well the clinical preparation is tied to relevant pedagogical coursework.<sup>17</sup>

A 2005 synthesis of teacher education research by a panel of the American Educational Research Association did not clearly point to the superiority of any particular program structure (e.g., four-year undergraduate program, a fifth-year post-baccalaureate program, or alternative program).<sup>18</sup> However, the panel did indicate that, under the right conditions, certain strategies used in preparation programs, such as case studies and teaching portfolios, can yield positive outcomes for teachers and their students.

Yet a 2008 examination of evidence on teacher education by the National Bureau of Economic Research found that teachers with more extensive clinical training (including a full-year internship) before they begin to teach actually produce higher student achievement gains.<sup>19</sup> In a study of both traditional and alternative pathways into teaching, the researchers – using a large and sophisticated database – found that teacher education programs that produce higher student achievement gains (in their graduates' first year of teaching) had the following characteristics:

- (1) Extensive and well-supervised student teaching, with strong “congruence” between the training experience and the first-year teaching assignment;
- (2) Opportunities “to engage in the actual practices involved in teaching” (e.g., lesson studies with colleagues);
- (3) Opportunities to study and assess local school curricula; and
- (4) A capstone experience in which action research or data-focused portfolios are used to make summative judgments about the quality of the teacher candidate.<sup>20</sup>

### ***Debate 3: Does experience – and what type of experience – matter to teacher effectiveness?***

Some researchers have not found that teaching experience beyond the initial three years results in improved student test scores.<sup>21</sup> However, not all teachers, even with the same number of years in the classroom, have the same teacher preparation and professional development experiences over time. Other researchers have shown that more *experienced, expert* teachers know more than novices and organize the knowledge of content, teaching strategies, and students differently, retrieve it more readily, and can apply it in novel and creative ways.<sup>22</sup> Still others have shown that more seasoned, experts are more able to overcome some of the stressful working conditions found in many in high needs schools.<sup>23</sup>

Teachers do not gain from their experience in a vacuum. Teaching experience may matter for student achievement when teachers have access to their more expert, seasoned colleagues. Researchers have shown that the main reason American students do not perform as well as many of their international peers on achievement measures in math and science is that their teachers are not give the kinds of opportunities to learn from each other.<sup>24</sup> In this investigation

it was the collective experience of teachers, as they learned from each other that seemed to matter most for improving student achievement.

A 2009 study using 11 years of matched teacher and student achievement data was able to isolate and quantify the added value brought about by such collective expertise – finding that most value-added gains are attributable to teachers who are more experienced (and qualified) and stay together as teams. Drawing on sophisticated analyses, the researchers found that peer learning among small groups of teachers seems to be the most powerful predictor of student achievement over time.<sup>25</sup> *Education Week*, in reporting on this groundbreaking research, concluded: “[T]eachers raise their games when the quality of their colleagues improves.”<sup>26</sup>

As part of our own investigations into working conditions, teacher retention and student achievement, one science teacher with 10 years’ experience told us:

I remember those early stages of feeling so overwhelmed as a novice teacher. I was trying to prepare everything one day ahead of where the kids were. And then I went through a stage where I was a little bit more comfortable. I had plenty of content knowledge. That has never been a problem. The problem has been how to teach it. If it was not for the mentor who helped me, and now my professional learning community, I would not be as effective as I am. I would have to honestly say that it’s just in the last couple of years that I really feel good about my teaching and the results I am getting. I think that it really takes five years, with support, to become an effective teacher.

### **Teacher Working Conditions and Teaching Effectiveness**

A plethora of studies have shown that many factors and circumstances determine whether qualified teachers can teach effectively. Effective teaching is not just about teachers’ knowledge, skills, and dispositions – but also about the conditions under which they work. Successful efforts to raise teaching quality and student achievement, especially in high-needs schools, require *an intensive focus on working conditions*: making sure teachers teach in the fields in which they are prepared; have adequate time to work with colleagues on matters of instruction; have ready access to information, materials and technology; and receive helpful feedback about their teaching.<sup>27</sup> Rosenholtz’s landmark study of two decades ago concluded that “learning-enriched schools” were characterized by “collective commitments to student learning in collaborative settings...where it is assumed improvement of teaching is a collective rather than individual enterprise, and that analysis, evaluation, and experimentation in concert with colleagues are conditions under which teachers improve.”<sup>28</sup> One recent study found that students achieve more in mathematics and reading when they attend schools characterized by higher levels of teacher collaboration for school improvement.<sup>29</sup>

Other researchers have found that school characteristics such as smaller size and common planning time are key to supporting professional learning communities, which can encourage effective innovation.<sup>30</sup> They have also found that teachers who participate in structured dialogues to analyze student work and collectively solve problems in their schools are more likely to change their teaching practices and improve student achievement.<sup>31</sup> Still other researchers have found that professional development using “scientifically rigorous methodologies” and characterized by depth and duration (30 to 100 hours of time over six

months to a year) was likely to impact student achievement positively. Despite this research, high-intensity, job-embedded collaborative learning is not very common among teachers in American schools.<sup>32</sup> Some analysts have claimed that cultivating these teacher working conditions and building a sense of trust in schools are critical factors in school reform – as both have been linked to greater teacher effectiveness, irrespective of the academic ability of teachers and whether they attended a competitive college.<sup>33</sup>

Teaching in a high-needs school is often a frenetic experience. Many teachers find it necessary to put in well over 60 hours a week to manage multiple interventions, meet the social and emotional needs of their students, mediate conflicts when out-of-school turmoil spills over into the classroom, cope with the complexity of teaching highly mobile students, and deal with the constant pressure to prepare for high-stakes tests. (A recent Public Agenda poll revealed that teachers, young and old, are primarily “disheartened” by the overemphasis on standardized tests as the tool to judge them and their schools. <sup>34</sup> This effect is certainly heightened in our most challenging school environments.)

Many teachers in high-needs schools also struggle to find resources they can use to differentiate instruction for students with varying special needs, including the growing number of students who are learning English as a second language. The pressure to do a nearly impossible job is tremendous. In the absence of supportive working conditions, the human price – all too often – is professional burnout. In a widely read *Washington Post* article, former Teach For America recruit Sarah Fine described why she resigned from teaching after administrators “steadily expand[ed] the workload and workday” while “more and more major decisions were made behind closed doors, and more and more teachers felt micromanaged rather than supported.”<sup>35</sup>

Our work with teachers in high-needs schools has led us to look carefully at the kinds of working conditions that seem to matter most for student achievement. Since we started our investigations over five years ago, we have surveyed over 300,000 teachers in seven different states and several major urban school districts. Like other investigators, we have found that quality school leadership, more time for planning and collaboration, and opportunities to take an active role in school decision-making processes all correlate highly with teachers’ plans to remain in teaching. In some cases, we also found that these factors related to improved student achievement.<sup>36</sup>

We have learned that elementary school teachers are far more positive about their working conditions, when compared to their middle and high school counterparts; new teachers who have quality support are more likely to report they will remain in teaching; and teachers who report relatively low levels of satisfaction with their professional development often do not have access to the kinds of training they believe they need. (See Appendix.) These findings are not surprising for anyone who has spent time in schools, but nonetheless are rarely addressed by the “reformers” who seek to improve teacher and teaching effectiveness.

The early results of our working conditions research showed more variation in teachers’ reports of their working conditions within schools than among them. In particular, those survey results showed no significant differences between high-needs and “not-so-high-needs” schools. Taken together, and given the evidence of other research and our own observations, these two results

suggested that our instruments were insufficiently sensitive to capture the realities of these very different school environments.

Therefore, over the last year, with support from the Ford Foundation, we launched a series of case studies in several high-needs urban districts to understand more deeply the effects of working conditions on the retention of effective teachers in challenging schools. Our early findings call to mind the work of Dr. W. Edwards Deming, legendary in his role in reinvigorating Japanese industries after World War II, who developed the “85-15 rule.” According to Deming, 85 percent of a worker’s performance is determined by the system in which they work, and the remaining 15 percent by their individual effort.<sup>37</sup> In other words, it is the system that needs most of our attention. Improving student learning in the 21<sup>st</sup> century will require policymakers to get beyond the usual debates about teaching effectiveness and focus not just on the qualities of individual teachers, but on the conditions that facilitate their improved effectiveness.

### **Going Deeper: Working Conditions That Matter Most**

Our recent case studies have surfaced a range of working conditions that seem to matter most for effective teaching, teacher retention, and student achievement. The work we report here is only exploratory, but we have uncovered a number of tightly connected factors that seem to determine whether teachers in high-needs schools find their work environment supportive of their teaching and beneficial in building their own capacity to help their students meet academic standards. What follows are brief descriptions of several key “threshold” conditions on which schools and districts should focus to promote effective teaching and student learning.

First, it is important to point out that with rapid changes in learning technologies, effective classrooms in the 21<sup>st</sup> century will not focus solely on imparting siloed information to students in discrete classrooms. Rather, researchers<sup>38</sup> and teachers<sup>39</sup> project that effective education will be increasingly about how well topics and skills can be interconnected to boost higher-order thinking and learning, capacities for clear communication, and critical and strategic thinking. Teachers will need to be not only content area experts, but also sound managers of students’ educational experiences, coordinating diverse sources of learning beyond the standard text and lecture. Creating school environments that support this kind of effective teaching goes well beyond the traditional “working conditions” issues related to the time, resources and training available to teachers. Increasingly, research points to the fact that it is not just *what* teachers can access, but *how* they use those accessed resources to advance instructional excellence, that will determine their effectiveness and their longevity in the profession.

#### ***1. Specific preparation for high-needs schools***

Our research has pointed to several types of in-depth preparation essential for effective teaching in high-needs schools. All teachers in these settings need preparation for working with special needs students and with students who are learning English as a second language. Teachers who entered teaching with more of these skills were more at ease, less harried, more likely to respond favorably to the students they were teaching, and more likely to have the pedagogical tools to teach them.

We have also learned that teachers in high-needs schools need to acquire specific knowledge about how to manage reform mandates. Such training helps teachers to manage multiple



interventions more effectively, meet the social and emotional needs of their students, mediate conflicts when out-of-school turmoil spills over into the classroom, understand the complexity of teaching highly mobile students, and deal with the rush to prepare for high-stakes tests. With deeper preparation, one administrator in a high-needs school district told us, “they are more likely to keep their heads above water” and “remain in teaching long enough to get good at what they do.”

In addition, we have learned that many new teachers in high-needs schools struggle to find resources they can use to differentiate instruction for students with varying academic needs and community or home contexts. Many do not have content-specific mentors who can provide the just-in-time support they need. The teachers we interviewed entered teaching through various pathways, both traditional and alternative. The pathway did not seem to matter, but – as supported by findings in the research cited here – additional preparation for and clinical experience in high-needs schools did. Those teachers with less such specific experience were also less ready to teach effectively in high-needs schools.

## ***2. Staffing schools for collective experience and expertise***

Many researchers, as noted previously, often do not find that teaching experience (after the first few years) is strongly associated with student achievement. Our research points to two reasons for the tenuous link: (1) a lack of coherent and ongoing mentoring support available to novice teachers in high-needs schools, and (2) administrators who not know how to organize their teaching talent in the best interests of student learning. Some problems of under-preparation and inexperience can be ameliorated by the better use of experienced, expert teachers in coaching and mentoring roles.

One of our case studies makes this point clearly. A well-prepared principal, also well-known in the district for her instructional expertise, was confounded by the influx of brand new teachers in one grade level in her high-needs school. Concerned about the novices’ ability to deliver high-quality instruction and their potential for burnout, she made the unusual choice of removing the one seasoned veteran in that particular grade level from full-time teaching. Instead, this veteran circulated daily among the four novice teachers’ classrooms as a full-time coach, mentor and team teacher. As the recent research literature suggests, this experiment in collaboration and shared expertise was a success. Despite having only first-year teachers, all four classes were excelling. According to the principal, the novice teachers were already beginning to teach as if they had much more teaching experience. All of the novices were planning to remain in teaching, defying the typical attrition rate among new teachers in high-needs schools. This example not only speaks to an innovative form of instructional leadership for principals and veteran teachers in high-needs schools, it reveals that the effects of teaching experience on instructional practice and student achievement are not easily determined.

## ***3. Out-of-field and new assignments***

The need to cultivate collective expertise – and provide other types of ongoing support and professional development for teachers – is particularly strong in high-needs schools, which have a disproportionate number of beginning and out-of-field teachers. Education budget cuts due to the recession have forced unprecedented numbers of reductions in force (RIFs) over the past

year and even more mobility of teachers within and across schools. Even where tenure or seniority has protected some teachers' positions from being cut outright, many teachers have been required to change grade level or subject area, often on a moment's notice. Even if new assignments are not technically out-of-field, the differences between old and new assignments can be drastic, leaving even experienced teachers performing like relative novices.

For instance, in one high-needs school, a veteran earth sciences teacher found himself placed in an upper-grade chemistry classroom earlier this school year, due to forced re-staffing as a result of economic recession:

I know I'm licensed for any secondary science course, but this feels like starting over. I need new lesson plans for the new subject, and have to use different methods for the new age group. And I only had one class in chemistry in college!

Another veteran teacher was moved from middle school to high school, after being "surplused" twice because of the recession, and was in that sense forced to teach out of field:

It's really frustrating because I had been teaching at the middle school for so long and finally learned how to teach the early adolescent. The all of a sudden I was fired and then later rehired and sent to a high school where the students are quite different – and I had to teach a course I had never taught before. Then, I got RIFed [pink slipped] again.

In other case study sites, we came across innumerable examples where 2<sup>nd</sup> grade teachers were being moved to the 5<sup>th</sup> grade, and vice versa. Even though most of these transfers involved experienced teachers, the differences in curriculum and the developmental age of students posed new pedagogical challenges for them, with few if any formal professional development supports. In this kind of staffing context, traditional notions of induction support as a "beginners only" system are outdated, and the demarcation between experienced and inexperienced teachers becomes even more ambiguous.

Researchers have shown how teacher and teaching effectiveness can be muddied by out-of-field teaching assignments made by administrators who either do not have the resources or the inclination to fill every classroom with teachers who are prepared to teach specific content.<sup>40</sup> Others have documented how administrators rarely select teachers on the basis of instructional effectiveness, but rather on a range of local political and organizational preferences.<sup>41</sup> One of the most confounding working conditions problems in high-needs schools is out-of-field teaching – not the qualifications or dispositions of the individual teachers. Professional development and support systems must evolve to address that need.

#### ***4. Vertical planning – especially for improvement on high stakes tests***

As the positive impacts of teacher collaboration have become more widely recognized and promoted, more schools and districts have encouraged collective practice within grade level or subject area teams. In one of our case study sites, survey data revealed that more teachers are reporting adequate time for collaboration at their schools. Collaboration – if done in a structured and focused manner – can be incredibly important in helping teachers develop effective teaching practices and problem-solving skills.



Teachers, especially in high-needs schools, clamor for more time — and not just with their grade level or subject matter peers. In one case study site, a high-needs school has struggled to raise third grade test scores, despite a history of horizontal (grade-level) collaboration among teachers. Now they are beginning to experiment with *vertical* collaboration as well, so that K-2 teachers are more aware of — and more accountable for — what needs to be done to lay the groundwork for literacy and numeracy skills that will be tested in the years *after* students leave their classrooms. Vertical collaboration also provides space and structure for early-grades teachers to “hand off” knowledge about how particular students learn best to their upper-grades colleagues, making it more likely that students can get instruction geared to their particular needs from day one in their succeeding classrooms. In this school, teachers are already reporting more confidence in their teaching. The practice has been shown to improve teacher retention and effectiveness over time. However, we have found few systematic efforts in our sites for ensuring both horizontal and vertical planning time.

### ***5. Managing student mobility***

Research shows that student mobility can depress achievement, not only for the transient students themselves, but also for their classmates.<sup>42</sup> Student mobility, caused by families who must move from one neighborhood or region to another, is disproportionately a problem in high-needs schools, adding another challenge to serving students in these communities. While housing instability and residency issues for low-income and immigrant students are beyond the control of teachers, it has become a problematic working condition for them.

Our case study visits have surfaced how an inflexible school curriculum and outdated data systems undermine teachers’ capacity to teach transient students effectively. Some teachers, usually by happenstance, will teach more mobile students than others. Indeed, some teachers may only have a few students enter and exit during the school year, while others may have over 50 percent mobility. Class loads and assignments are rarely altered for teachers with a high incidence of student turnover — few school administrators are trained or expected to manage this kind of student mobility. As a result some teachers are more extended than others — and in many cases, become “exhausted” given the extra work and stress these situations create.

### ***6. Connecting school and community afterschool programs***

Our research also suggests that teachers in high-needs schools need more preparation to work with a variety of “outside-of-the-school” support providers. Our own surveys find that teachers report “adequate” support from parents in educating their children. But our case studies have surfaced a more critical factor in student success — the knowledge that teachers have of afterschool programs and the acumen of administrators in helping connect what takes place during the regular school day with the services and support that students receive in the community (e.g., Big Brother/Big Sister programs). In most of our cases, few of the teachers we interviewed had received any information through school or district induction programs about afterschool or summer enrichment programs or other resources for their students available during out-of-school time. None report being explicitly trained to leverage these resources to boost student learning or wellbeing.

Our case study work has also shown us that there are direct educational benefits to involving classroom teachers in building bridges between school and community. For example, a few

teachers reported to us that they feel far more in control of their work with students when there are specific connections between what they teach in core curriculum and what their students experience in afterschool and summer programs. In some instances, teachers make these connections on their own — and on their own time. Sometimes administrators are aware of these efforts and assist, but often they do not.

Traditionally, it is exclusively principals or school-based social workers and counselors who make school-community connections, leaving teachers somewhat “out of the loop.” Teachers, in our interviews, were very clear about the need to be “in the loop” with such community connections if they are going to be able to teach effectively, especially in high-needs schools. However, they were also more than clear that they needed more time to do so: “other things had to be taken off their plate.”

## Conclusions

Much of the teaching effectiveness debate continues to focus mostly on the academic qualifications and dispositions of teachers, not the conditions under which they work or the extent to which they are prepared for the classroom, especially in high needs schools. This debate, which is not new, has been intensified by the popular media and made part of the “conventional wisdom” that many journalists and other education analysts hold about the teaching profession.

Current research — both ours and the work of others — points to the need for policies and practices that zero in on the specific working conditions and professional supports teachers require to persist and excel in high-needs schools. Few commentators ask questions about the conditions necessary to convince talented recruits to accept challenging school assignments. Nor do they ask what supports must be present for them to teach effectively once they’ve been recruited.

Another recent poll by the Public Agenda Foundation found that *nearly 80 percent of teachers* would choose to teach in a school where administrators supported them, rather than a school with significantly higher salaries.<sup>43</sup> Recent research on National Board Certified Teachers (NBCTs) has produced similar findings.<sup>44</sup> Our own work with NBCTs suggests that financial incentives alone will not lure these accomplished teachers to high-needs schools. Factors such as strong principal leadership, a collegial staff with a shared teaching philosophy and pedagogical practices, the autonomy to adapt curriculum to the needs of their diverse students (i.e., no rigid scripted curriculum), and access to subject-specific resources (e.g., classroom reading libraries and science equipment) are first and foremost.<sup>45</sup> Financial incentives were important but not at the top of these teachers’ lists. In one study we found senior teachers more than willing to transfer to high-needs schools if the conditions were ripe. Other researchers have also clearly documented what it takes to encourage accomplished teachers to move to the schools that need them most.<sup>46</sup>

We agree that more finely-tuned research needs to be conducted to gauge the most critical working conditions linked to effective teaching and student achievement gains. And journalists and analysts need to get better at telling more accurate stories of what it takes to ensure an effective teacher for every child. Framing a more accurate narrative of teaching effectiveness will

be key to building the political will necessary to advance the working conditions that matter most for students and their learning. Teaching can and should recruit more talented individuals into the profession and ensure they have the right attitudes toward students in high-needs schools. But evidence strongly suggests that we focus less on individual teachers' attributes than on the quality of the structures that develop, support and facilitate the work of effective teachers.

## Appendix: Case Study Work on Teaching and Learning Conditions

The Center for Teaching Quality has developed and administered large-scale surveys on teacher working conditions in states and districts nationwide since early in this decade. Our survey work in Clark County School District (CCSD) in Nevada expanded several years ago to include case studies at two high-needs schools in that urban district. Our goal in moving to mixed-methods research was to examine and illustrate particular survey data points in a deeper and more nuanced fashion — one that was embedded in the context of a specific school and larger community. Our interviews with teachers, administrators, community partners, and school social workers or instructional specialists provided diverse perspectives on how Empowerment school reform models (based on offering increased autonomy to address specific challenges in low-performing schools) can drive dramatic school improvements shown in the teaching and learning conditions survey, and student achievement data.

With support from the Ford Foundation, CTQ has now added a third non-Empowerment case study school in CCSD, which allows us to introduce a control into research in that district. Ford funding is also making possible the addition of three schools each in two new case study sites in North Carolina's Charlotte-Mecklenburg Schools (CMS) and another major urban district in the northeast (to be announced in spring 2010). In CMS, we are collaborating with researchers at Queens University of Charlotte, who are conducting an evaluation of the district's Strategic Staffing Initiative (SSI). SSI — similar to CCSD's Empowerment model — is designed to offer high-needs, low-performing schools additional autonomy in managing budgets and staffing.

Each district operates in a very different community and political context, but several clear themes are beginning to emerge from this interconnected work:

- Teachers report increased time for collaboration as schools focus on improving working conditions related to teacher effectiveness. However, teachers are not always offered the structure and support needed to make the best use of that time. For instance, they may lack the training and facilitation needed to collaborate effectively, or collaboration may exclude staff who are not classroom teachers but could be excellent instructional resources (e.g., instructional specialists for special needs students). The structure of staffing and collaboration patterns is a critical working condition that mediates teacher effectiveness and school success.
- Teachers who report strong supports — access to professional development opportunities, or mentoring and induction programs for beginning teachers — generally report the highest levels of satisfaction with their working conditions *and* say that these supports make them more effective in the classroom. They are also more likely to plan to stay in the profession over the next three to five years than colleagues who lack such supports.
- Teachers rank school leadership as the most important factor in their decisions about whether to remain in or leave their current schools. Schools in which principals invite teacher leadership, support effective instruction and the conditions that make it possible, and create an environment of trust and support among staff have higher rates of planned retention.

## Works cited

- <sup>1</sup> Boyd, D., Lankford, H., Loeb, S., Rockoff, J. & Wyckoff, J. (2007). *The narrowing gap in New York City teacher qualifications and its implications for student achievement in high-poverty schools*. CALDER Working Paper 10; Ferguson, R.F. (1991). Paying for public education: New evidence on how and why money matters. *Harvard Journal on Legislation*, 28(2), 465-498; Hanushek, E.A. (1996). *School resources and achievement in Maryland*. Baltimore, MD: Maryland State Department of Education; Rivkin, S.G., Hanushek, E.A., & Kain, J.F. (2005). Teachers, schools, and academic achievement. *Econometrica*, 73(2), 417-58; Rockoff, J. E. (2004). The impact of individual teachers on student achievement: Evidence from panel data. *American Economic Review*, 94(2), 247-252; Sanders, W.L. & Rivers, J.C. (1996). *Cumulative and residual effects of teachers on future student academic achievement*. Knoxville, TN: University of Tennessee Value-Added Research and Assessment Center.
- <sup>2</sup> Cavalluzzo, L. (2004). *Is National Board Certification an effective signal of teacher quality?* Alexandria, VA: CNA Corporation; Goldhaber, D. & Anthony, E. (2004). Can teacher quality be effectively assessed? Seattle, WA: Center on Reinventing Public Education, University of Washington; Humphrey, D.C., Koppich, J.E. & Hough, H.J. (2005, March 3). Sharing the wealth: National Board Certified Teachers and the students who need them most. *Education Policy Analysis Archives*, 13(18); Sanders, W.L. & Rivers, J.C. (1996). Cumulative and residual effects of teachers on future student academic achievement. Knoxville, TN: University of Tennessee Value-Added Research and Assessment Center.
- <sup>3</sup> Strizek, G. A., Pittsonberger, J. L., Riordan, K. E., Lyter, D. M., & Orlofsky, G. F. (2006). Characteristics of schools, districts, teachers, principals, and school libraries in the United States: 2003-04 Schools and Staffing Survey. Washington, DC: U.S. Department of Education, National Center for Education Statistics.
- <sup>4</sup> Ingersoll, R. M. (1999). The problem of underqualified teachers in American secondary schools. *Educational Researcher*, 28(2). Retrieved September 15, 2008 from [http://www.gse.upenn.edu/faculty\\_research/docs/ER-RMI-1999.pdf](http://www.gse.upenn.edu/faculty_research/docs/ER-RMI-1999.pdf); Mayer, D.P., Mullens, J.E. & Moore, M.T. (2002). Monitoring school quality: An indicators report. Washington, DC: National Center for Education Statistics. Retrieved September 15, 2008 from <http://nces.ed.gov/pubs2001/2001030.pdf>.
- <sup>5</sup> Darling-Hammond, L. & Sykes, G. (2003, September 17). Wanted: A national teacher supply policy for education: The right way to meet the 'highly qualified teacher' challenge. *Education Policy Analysis Archives*, 11(33). Retrieved October 30, 2009 at <http://epaa.asu.edu/epaa/v11n33/>; Murnane, R. J. (1985, June). Do effective teachers have common characteristics: Interpreting the quantitative research evidence. Paper presented at the National Research Council Conference on Teacher Quality in Science and Mathematics, Washington, DC; Sanders, W. L. & Rivers, J. C. (1996). *Cumulative and Residual Effects of Teachers on Future Student Academic Achievement*. Knoxville, TN: University of Tennessee Value-Added Research and Assessment Center; Wayne, A. J. & Youngs, P. (2003). Teacher characteristics and student achievement gains: A review. *Review of Educational Research*, 73(1), 89-122.
- <sup>6</sup> Kristof, N. (2006, April 30). Opening classroom doors. *New York Times*. Retrieved April 30, 2006 at [http://select.nytimes.com/2006/04/30/opinion/30kristof.html?\\_r=1](http://select.nytimes.com/2006/04/30/opinion/30kristof.html?_r=1).
- <sup>7</sup> Kristof, N. (2006, April 30). Opening classroom doors. *New York Times*. Retrieved April 30, 2006 at [http://select.nytimes.com/2006/04/30/opinion/30kristof.html?\\_r=1](http://select.nytimes.com/2006/04/30/opinion/30kristof.html?_r=1).
- <sup>8</sup> Mathews, J. (2009, April 27). Jay's take: Schools need energy more than experience. *Washington Post*. Retrieved April 27, 2009 at [http://voices.washingtonpost.com/class-struggle/2009/04/jays\\_take\\_schools\\_need\\_energy.html](http://voices.washingtonpost.com/class-struggle/2009/04/jays_take_schools_need_energy.html).
- <sup>9</sup> Rotherham, A. J. (2009). Achieving teacher and principal excellence: A guidebook for donors. Washington, DC: Philanthropy Roundtable. Retrieved November 8, 2009 at [http://www.philanthropyroundtable.org/store\\_product.asp?prodid=210](http://www.philanthropyroundtable.org/store_product.asp?prodid=210).
- <sup>10</sup> Cochran-Smith, M. & Fries, M. K. (2002). The discourse of reform in teacher education: Extending the dialogue. *Educational Researcher*, 31(6), 26-28.
- <sup>11</sup> Goldhaber, D. & Anthony, E. (2004). Can teacher quality be effectively assessed? Seattle, WA: Center on Reinventing Public Education, University of Washington.
- <sup>12</sup> Murnane, R. J., & Steele, J. L. (2007). What is the problem? The challenge of providing effective teachers for all children. *The Future of Children*, 17(1), 15-43.
- <sup>13</sup> Cochran-Smith, M. & Zeichner, K. (2005). Studying teacher education: The report of the AERA Panel on Research and Teacher Education. Mahwah, NJ: Lawrence Erlbaum.
- <sup>14</sup> Decker, P.T., Mayer, D.P. & Glazerman, S. (2004). *The Effects of Teach For America on Students: Findings from a National Evaluation*. Princeton, NJ: Mathematica.
- <sup>15</sup> Berry, B. (2005, October 19). Teacher quality and the question of preparation. *Education Week*. Retrieved April 1, 2009 from <http://www.edweek.org/ew/articles/2005/10/19/08berry.h25.html>.
- <sup>16</sup> Corcoran, S. P., & Jennings, J. L. (2009). *Review of "An Evaluation of Teachers Trained Through Different Routes to Certification: Final Report."* Boulder, CO and Tempe, AZ: Education and the Public Interest Center & Education Policy Research Unit. Retrieved November 1, 2009 from <http://epicpolicy.org/thinktank/review-evaluation-of-teachers>.
- <sup>17</sup> Humphrey, D.C. & Wechsler, M.E. (2007). *Characteristics of effective alternative teacher certification*. Menlo Park, CA: SRI International; Humphrey, D.C. & Wechsler, M.E. (2005, September). Insights into alternative certification: Initial findings from a national study. *Teachers College Record*. Retrieved October 1, 2008 from <http://www.tcrecord.org>.
- <sup>18</sup> Cochran-Smith, M. and Zeichner, K. (2005). Studying teacher education: The report of the AERA panel on research and teacher education. Washington, DC: American Educational Research Association.
- <sup>19</sup> Boyd, D., Grossman, P., Lankford, H., Loeb, S. & Wyckoff, J. (2008, September). Teacher preparation and student achievement. NBER Working Paper Number W14314. National Bureau of Economic Research. Retrieved September 30, 2008 at <http://ssrn.com/abstract=1264576>.
- <sup>20</sup> Boyd, D., Grossman, P., Lankford, H., Loeb, S. & Wyckoff, J. (2008, September). Teacher preparation and student achievement. NBER Working Paper Number W14314. National Bureau of Economic Research. Retrieved September 30, 2008 at <http://ssrn.com/abstract=1264576>.
- <sup>21</sup> Murnane, R. J., & Steele, J. L. (2007). What is the problem? The challenge of providing effective teachers for all children. *The Future of Children*, 17(1), 15-43.
- <sup>22</sup> Shulman, L. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review*, 57(1), 1-22; Berliner, D. (1988). *The development of expertise in pedagogy*. Paper presented at the meeting of the American Association of

- 
- Colleges for Teacher Education, New Orleans, LA.; Sternberg, R. J., & Horvath, J. A. (1995). A prototype view of expert teaching. *Educational Researcher*, 24(6), 9-17.
- <sup>23</sup> Garmston, R. J. (1998). Becoming expert teachers (Part One). *Journal of Staff Development*, 19 (1). Retrieved on April 1, 2009 at <http://www.nsd.org/library/publications/jsd/garmston191.cfm>.
- <sup>24</sup> Stigler, J. & Hiebert, J. (2009, November). Closing the teaching gap. *Phi Delta Kappan*, 91(3), 32-37.
- <sup>25</sup> Jackson, C. K. & Bruegmann, E. (2009, August). Teaching students and teaching each other: The importance of peer learning for teachers. NBER Working Paper 15202. Washington, DC: National Bureau of Economic Research.
- <sup>26</sup> Viadero, D. (2009). Top-notch teachers found to affect peers. *Education Week*. Retrieved September 1, 2009 at [http://www.edweek.org/ew/articles/2009/09/01/03peer.html?tkn=VQ\[F91pv4%2Fm1H05QrumV3xEwIqnZkr5Dl8iG](http://www.edweek.org/ew/articles/2009/09/01/03peer.html?tkn=VQ[F91pv4%2Fm1H05QrumV3xEwIqnZkr5Dl8iG).
- <sup>27</sup> Little, J. W. (1996, April). *Organizing schools for teacher learning*. New York: Paper presented at the annual meeting of the American Educational Research Association.
- <sup>28</sup> Rosenholtz, S. (1989). *Teacher's Workplace: The Social Organization of Schools*. New York: Longman.
- <sup>29</sup> Goddard, Y., Goddard, R. D. (2007, April). A theoretical and empirical investigation of teacher collaboration for school improvement and student achievement in public elementary schools. *Teachers College Record*, 109(4), 877-896.
- <sup>30</sup> Louis, K. S., Kruse, S. & Marks, H. (1996). Schoolwide professional community. In F. Newmann and Associates. *Authentic achievement: restructuring schools for intellectual quality*, 179-203. San Francisco: Jossey-Bass.
- <sup>31</sup> Cohen, D. K., & Hill, H. C. (2001). *Learning policy*. New Haven, CT: Yale University Press.
- <sup>32</sup> Wei, R., Darling-Hammond, L., Andree, A., Richardson, N., and Orphanos, S. (2009). *Professional learning in the learning profession: A status report on teacher development in the U.S. and abroad*. Dallas, TX: National Staff Development Council.
- <sup>33</sup> For example, see Bryk, A.S. & Schneider, B. (2002). *Trust in schools: A core resource for improvement*. New York: Russell Sage Foundation; Rosenholtz, S.J. (1989). *Teachers' Workplace: The Social Organization of Schools*. New York: Longman; Talbert, J., McLaughlin, M. & Rowan, B. (1993). Understanding context effects on secondary school teaching. *Teachers College Record*, 95(1), 45-68.
- <sup>34</sup> Johnson, J., Yarrow, A., Rochkind, A., and Ott, A. (2009). *Teaching for a living: How teachers see the profession today*. New York: Public Agenda Foundation.
- <sup>35</sup> Fine, S. (2009, August 9). Schools need teachers like me. I just can't stay. *Washington Post*. Retrieved on August 9, 2009 at <http://www.washingtonpost.com/wp-dyn/content/article/2009/08/07/AR2009080702046.html>.
- <sup>36</sup> Berry, B. and Fuller, E. (2007). *Stemming the tide of teacher attrition: How working conditions influence teacher career intentions and other key outcomes in Arizona*. Hillsborough, NC: Center for Teaching Quality.
- <sup>37</sup> Deming, W.E. (2000). *Out of Crisis*. Cambridge: MIT Press.
- <sup>38</sup> Silva, Elena (2009, October). *Teachers at work: Improving teacher quality through school design*. Washington, DC: Education Sector.
- <sup>39</sup> Berry, B. (2009, October). *The teachers of 2030: Creating a student-centered profession for the 21st century*. Hillsborough, NC: Center for Teaching Quality.
- <sup>40</sup> Ingersoll, R. M. (1999). The problem of underqualified teachers in American secondary schools. *Educational Researcher*, 28(2). Retrieved September 15, 2008 from [http://www.gse.upenn.edu/faculty\\_research/docs/ER-RMI-1999.pdf](http://www.gse.upenn.edu/faculty_research/docs/ER-RMI-1999.pdf).
- <sup>41</sup> Murnane, R. J., & Steele, J. L. (2007). What is the problem? The challenge of providing effective teachers for all children. *The Future of Children*, 17(1), 15-43.
- <sup>42</sup> Hartman, C. (2002). High classroom turnover: How children get left behind. In Piche, D. M., Taylor, W. L. & Reed, R. A. (Eds.), *Rights at Risk: Equality in an Age of Terrorism*, 227-244; Rumberger, R. W. & Larson, K. A. (1998). Student mobility and the increased risk of high school dropout. *American Journal of Education*, 107(1), 1-35; US Government Accountability Office (1994). *Elementary school children: Many change schools frequently, harming their education*. Washington, DC: USGAO.
- <sup>43</sup> Rochkind, J.; Ott, A.; Immerwahr, J.; Doble, J.; & Johnson, J. (2007). *Lessons learned: New teachers talk about their jobs, challenges, and long-range plans: A report from the National Comprehensive Center for Teacher Quality and Public Agenda*. New York: Public Agenda.
- <sup>44</sup> Humphrey, D.C., Koppich, J.E., & Hough, H.J. (2005). Sharing the wealth: National Board Certified Teachers and the students who need them most. *Education Policy Analysis Archives*, 13(18). Retrieved June 1, 2005 from <http://epaa.asu.edu/epaa/v13n18/>; Koppich, J.E. & Humphrey, D.C. (2006, April 3). Making use of what teachers know and can do: Policy, practice, and National Board Certification. *Education Policy Analysis Archives*, 15(7). Retrieved June 1, 2006 from <http://epaa.asu.edu/epaa/v15n17/>.
- <sup>45</sup> Berry, B. (2007). *Recruiting and retaining quality teachers for high-needs schools: Insights from NBCT summits and other policy initiatives*. Hillsborough, NC: Center for Teaching Quality.
- <sup>46</sup> Berry, B., Smylie, M., & Fuller, E. (2008). *Understanding teacher working conditions: A review and look to the future*. Report prepared for the Spencer Foundation. Hillsborough, NC: Center for Teaching Quality.