



EPI BRIEFING PAPER

ECONOMIC POLICY INSTITUTE • OCTOBER 23, 2009 • BRIEFING PAPER #249

HOW BEST TO ADD VALUE? Strike a balance between the individual and the organization in school reform

BY SUSAN MOORE JOHNSON

Two developments in public education converged near the turn of the century to bring rare prominence to the issue of teacher policy. First, several researchers reported with confidence that teachers are the single most important school-level factor in students' learning. Although schools could not influence the prior experience or socio-economic status of a student, they could decide who the child's teachers would be, and those decisions would have long-term consequences for students' academic success. Meanwhile, school officials faced the challenge of replacing an enormous cohort of retiring veterans with new teachers. The demand for teachers in low-income schools was especially great.

Recognizing this pressing need for new, effective teachers, policy makers and administrators began to adopt strategies for recruiting, hiring, supporting, motivating, assessing, and compensating the best possible individuals. Their efforts succeeded in highlighting for the public the importance of teachers. Over the past decade, however, this sharpened focus on the individual teacher has eclipsed the role that the school as an organization can and must play in enhancing the quality and effectiveness of teachers and teaching. As a result, teachers are getting less support than they should and schools are less successful than they might be.

The following discussion explores this line of argument by first summarizing relevant evidence and then suggesting how schools can increase their professional capacity and instructional success by striking a balance between the

TABLE OF CONTENTS

Findings on the role of teacher quality	2
Rising demand, falling supply in the teacher labor market"	2
Competing theories of change	2
The weight of the evidence	3
Alternative approaches to human capital management	4
Striking a balance between the individual and the organization	4
Conclusion	5

www.epi.org

attention they give to the individual teacher and the attention they devote to the organization overall.

Findings on the role of teacher quality

Between 1997 and 2003, the importance of the teacher's role in student learning was confirmed by a series of influential studies (Wright, Horn, and Sanders 1997; Rockoff 2004; Rivkin, Hanushek, and Kain 2005; Rowan, Correnti, and Miller 2002; McCaffrey, Lockwood, Koretz, and Hamilton 2003). Together, these studies demonstrated that the teacher is the most important school-level influence on students' learning, that some teachers are much more effective than others in raising student achievement, and that differences among teachers can be measured using methods called value-added modeling. Further, these studies revealed that relative quality among teachers within schools varies greatly. This finding suggested to some analysts that the school as an organization has little influence on teachers' effectiveness and, therefore, that the most sensible strategy for improving teaching would be to staff schools with the best possible teaching candidates.

These findings about teacher quality were reported widely and analyzed closely (see, e.g., Sanders 1999; Olson 2004). Coupled with dramatic changes in the teacher labor market at the time, the findings led officials in many states to rewrite teacher licensing requirements while local school boards and administrators adopted new approaches for staffing their schools.

Rising demand, falling supply in the teacher labor market

By 2000, an enormous cohort of teachers who had been hired during the late 1960s and early 1970s were beginning to retire, and it was not clear who would replace them. Three decades before, teaching had provided a professional path for women and for men of color when other lines of work were closed to them. Now these groups, who had long made up the ranks of teachers, had access to a wide range of attractive career options; they no longer would enter teaching as a default career. The demand for new teachers grew, but the pool of licensed candidates was small and, by some accounts, weak (Corcoran, Evans, and

Schwab 2004). For the first time in history, schools had to compete for talent, and they were unprepared to do so.

Given the new convincing research that a single teacher could dramatically affect a child's life chances, school officials recognized more than ever the importance of recruiting and hiring promising candidates. But who was most likely to become an effective teacher? Research offered policy makers and administrators little guidance, beyond suggesting that individuals with higher test scores and greater content knowledge were more likely to be effective in raising students' test scores. There was no clear evidence that pre-service training in pedagogy or holding of a master's degree (other than in mathematics) contributed to a teacher's instructional success. The lack of conclusive research findings about teacher qualifications, coupled with a widely held belief that an individual who masters content knowledge can teach, led policy makers in many states to substantially reduce entry requirements to teaching.

Meanwhile, Teach for America (TFA), a program placing high-achieving liberal arts graduates in low-income schools, grew steadily in size and influence. TFA intensively recruited strong candidates on prestigious campuses and then carefully chose their corps members through a rigorous selection process. Publicity about TFA and similar programs reinforced the view that schools could be reformed solely by hiring individuals with "the right stuff." TFA corps members, assigned to some of the nation's most challenging schools, were expected to succeed largely by virtue of their own personal knowledge and intense dedication to students. They were asked to surmount the obstacles of the schools where they worked, rather than relying on those schools to support their work. Publicity about these teachers' courage and commitment heightened beliefs that the right individual could single-handedly succeed with any students.

Competing theories of change

This strategy for improving public education by relying on carefully chosen individuals is consistent with what is often referred to as "the egg-crate" model of schooling. Each teacher instructs his or her own students in a separate classroom and, although classrooms are connected, they remain discrete. The school's effectiveness is simply the

aggregate of these individual teachers' contributions to students' learning. This approach depends largely on self-reliant individuals and solo performances. However, unless all teachers within a school are highly effective, some students benefit from good instruction, while others are penalized for having been assigned to the "wrong" teacher. Moreover, although teachers may succeed within the walls of a single classroom, a student's academic career extends throughout the school from class to class and grade to grade. The egg-crate model does nothing to ensure that a student's experience over time will be consistent, coherent, or successful.

By contrast, an organizational approach to school improvement rests on a deliberately interdependent school organization. Teachers work across classroom and grade-level boundaries to support and extend each other's efforts. Arguably, the more that a school's teachers are knowledgeable about all students and coordinate their efforts to meet those students' needs, the more effective the school will be. This collaborative work among teachers with different levels of skill and different types of experience is designed to capitalize on the strengths of some and compensate for the weaknesses of others, thus increasing the overall professional capacity of the school.

An egg-crate school with independent teachers is administratively convenient because the loss of a teacher in one classroom has little practical consequence for teachers in other classrooms. Even though new, promising teachers may stay only for two or three years, proponents argue that those teachers' contributions to student learning are worth the investment. However, teacher turnover has substantial costs. The Boston Public Schools documented that in 2003 it cost the district \$10,547 to replace a first-year teacher, \$18,617 to replace a second-year teacher, and \$26,687 to replace a third-year teacher on top of the teacher's salary (Birkeland and Curtis 2006). More important, however, is the organizational cost of turnover, for the steady loss of able teachers continuously erodes the instructional capacity of schools.

A school where teachers work collaboratively certainly is more challenging to develop than one based simply on individuals. Teachers' roles are differentiated and their responsibilities and relationships are interdependent. Such a school can monitor the progress of individual students

over time, thus increasing the prospects for instructional success. Collaborative work can benefit from the combined talents and skills of all teachers, thus reducing the classroom-to-classroom variation in student achievement.

The weight of the evidence

Although studies have shown that certain teachers are more effective than others, research has yet to explain what it is that effective teachers do to raise student achievement. Proponents of the teacher-focused model assert that staffing high-need schools with smart, accomplished, and committed individuals can close the academic achievement gap, yet there is scant evidence that this actually occurs. For example, in its random-assignment study of TFA elementary teachers' effectiveness (Decker, Mayer, and Glazerman 2004), researchers from Mathematica found the TFA teachers to be only modestly better (one month more achievement in mathematics and no better performance in reading) than the comparison group of teachers. This slight difference was despite the fact that only some in the comparison group had traditional preparation while others worked under an emergency license. Given the prior academic accomplishments of TFA teachers and the careful selection process, one might expect to find clear evidence of superior performance. However, it may well be that able and committed individuals cannot, on their own, overcome the challenges of weak and dysfunctional school organizations. Put another way, if the school were organized to draw upon and extend the talents and experiences of all its teachers, TFA teachers might in fact be shown to be more effective.

Meanwhile, since the 1990s research studies have steadily documented the benefits and potential of an organizational strategy for school improvement (for example, Louis, Marks, and Kruse 1996; Newmann et al. 2001). In 1999, Abelmann and Elmore found that schools could not respond productively to external accountability policies unless they already had established professional norms and practices that ensured internal instructional coherence. Subsequently, Bryk and Schneider (2002) found that organizational trust was central to improved student learning. In study after study, researchers have concluded that schools do not become more effective unless teachers coordinate their work and contribute to school-wide improvement.

But the benefits of such a coordinated effort are precluded by an approach to human capital that depends primarily on the abilities and actions of individuals working within their solitary classrooms.

Alternative approaches to human capital management

In developing its human capital strategy, a district establishes approaches for teachers' recruitment, hiring, induction, professional development, evaluation, and compensation. As a group, these approaches might be geared to the individual, to the school organization, or to both. Certainly, the characteristics of individual teachers matter and must be taken into account at all stages of the teacher's career. A principal intent on hiring a strong science teacher would be foolish to ignore the candidate's transcript. However, research suggests that exclusively attending to the individual's qualifications and accomplishments is a mistake and should be balanced with attention to the school organization in which that teacher will work.

Various research studies that we have conducted since 2000 at the Project on the Next Generation of Teachers conclude that new teachers are more likely to remain in their schools and to report greater satisfaction with teaching when they experience school-based approaches to hiring, induction, and professional improvement (Johnson et al. 2004; also see www.gse.harvard.edu/~ngt). For example, hiring practices that involve current teachers in selecting their new colleagues were found to give new teachers a better preview of how their school would function. A better preview of work responsibilities has been shown to be associated with greater satisfaction and retention (Liu 2006). Novice teachers who were actively engaged in an ongoing way with their veteran colleagues during the first years of induction reported more satisfaction with teaching and a greater sense of self-efficacy than did those who were isolated as individuals or segregated with other novices. Over two years, novice teachers who worked in a school with an "integrated professional culture" and worked in an interdependent fashion with more experienced teachers had higher retention rates than those who did not (Kardos et al. 2001; Johnson et al. 2004).

Other researchers report similar findings about the importance of organizational context in the induction of new

teachers. For example, Mathematica conducted a random-assignment study of intensive one-to-one mentoring, a popular approach that focuses resources on the individual teacher. After two years, researchers concluded that the approach had no greater effect on retention or student learning than routine induction (Isenberg et al. 2009). Kapadia, Coca, and Easton (2007), who did find positive effects of one-to-one mentoring on the retention of Chicago teachers, reported that the benefits were substantially enhanced when mentoring was embedded in the professional context of the school. With both hiring and induction, therefore, new teachers seem to benefit not only when they are taken into account as individuals but also when they actively engage with their peers in the school.

Striking a balance between the individual and the organization

In part, the increasing focus on the individual teacher as the key to improving public schools has been driven by new value-added research methods, which promise to identify each teacher's contribution to student growth. By contrast, investigations of the school organization in all its complexity do not lend themselves to random-assignment studies, causal findings, or stark conclusions. However, the recent line of qualitative and survey-based research about teachers' work that is discussed above confirms the importance of the school organization in supporting teachers' growth, developing professional capacity, and increasing student learning. It is important, therefore, for researchers and policy makers to better understand and develop the relationship between the individual teacher and the school organization in which he or she works.

Two recent, unpublished studies suggest that researchers may be moving in that direction. A brief summary of each offers a glimpse into how research about the individual and the organization might intersect and inform one another, thus making the way for new progress in understanding and promoting both teacher quality and student learning.

The first study by Tyler et al. (2009) focuses on the relationship between teacher evaluation and student test scores. Some policy analysts have proposed using value-added research methods to decide whether, based on their student's test scores, teachers deserve to become tenured. Critics of this approach say that classroom observations

yield a much more valid assessment of teaching practice than test scores. Moreover, evaluations based on observations can help teachers understand what they can do in order to improve, while value-added scores provide no such guidance. However, classroom observations by principals are known to be uneven at best (New Teacher Project 2009). Over the past 10 years, the Cincinnati Public Schools have developed a standards-based Teacher Evaluation System (TES) in which trained master teachers assess other teachers' performance. Throughout the district, teachers and administrators have received training about the TES standards and their use in teaching and evaluation. A draft working paper by Tyler et al. indicates that Cincinnati teachers' value-added scores and their TES assessments are related in substantial ways. This is notable because it suggests not only that the value-added and observation measures are aligned, but also that combining the approaches may be worthwhile. While value-added measures may tell teachers how well they are doing, TES can tell them why, and provide the information and professional guidance they seek about where they fall short and how they might improve.

The second new study, by economists Jackson and Bruegmann (2009), focuses on collaboration among teachers. One important strategy for increasing the professional capacity of schools is to develop networks of information and exchange among teachers. Many districts provide time for elementary school teachers to work collaboratively on grade-level teams, and this teaming, which runs counter to traditional norms of individualism and autonomy among teachers, has been studied using qualitative methods, such as observations and interviews. Participants often report that undertaking such collaboration is difficult, but valuable. However, school officials may question whether this large investment of teachers'

time actually pays off. Jackson and Bruegmann find that students have larger achievement gains in math and reading, both initially and over time, when their teacher works with more effective colleagues at the same grade level. The researchers found the effects of "peer-induced learning" to be especially strong for less-experienced teachers. These findings about improved teaching and increased student learning in the context of collaborative structures provide important information as policy makers weigh alternative approaches to improving teacher quality.

Conclusion

Improving student learning, especially in high-need, low-income schools, requires increasing the professional capacity of schools. This is an organizational challenge that calls for a well-designed organizational response. Staffing weak and dysfunctional schools with a steady stream of talented and motivated individuals may serve some students in the short run, but it will not strengthen their schools in the long run. Recognizing that reality, however, does not mean that policy makers or administrators should ignore the potential of individuals or fail to hold them to account for their performance. Rather, it means that we must come to better understand the experiences of individuals within schools and the potential of those schools to support and enhance the work of the teachers who staff them. With better evidence and insight, we can design and adopt policies and practices that promote teacher quality and serve students as they should be served.

—*Susan Moore Johnson is the Pforzheimer Professor of Teaching and Learning at Harvard Graduate School of Education and director of the Project on the Next Generation of Teachers.*

References

- Abelmann, C., and R. F. Elmore. 1999. *When Accountability Knocks, Will Anyone Answer?* CPRE Research Report Series RR-42. Philadelphia, Pa.: Consortium for Policy Research in Education.
- Allensworth, E., S. Ponisciak, and C. Mazzeo. 2009. *The Schools Teachers Leave: Teacher Mobility in Chicago Public Schools*. Chicago, Ill.: Chicago Consortium for School Research.
- Archer, J. 1999. "Sanders 101." *Education Week* 18(34):26-29.
- Birkeland, S.E., and R. Curtis. 2006. *Ensuring the Support and Development of New Teachers in the Boston Public Schools: A Proposal to Improve Teacher Quality and Retention*. Boston, Mass.: Boston Public Schools.
- Bryk A., and B. Schneider. 2002. *Trust in Schools: A Core Resource for Improvement*. Chicago, Ill.: University of Chicago Press.
- Corcoran, S.P., W.N. Evans, and R.M. Schwab. 2004. "Women, the Labor Market, and the Declining Relative Quality of Teachers." *Journal of Policy Analysis and Management* 23(3):449-70.
- Decker, P.T., D.P. Mayer, and S. Glazerman. 2004. *The Effects of Teach for America on Students: Findings From a National Evaluation*. Princeton, N.J.: Mathematica Policy Research.
- Donaldson, M.L., S.M. Johnson, C.L. Kirkpatrick, W.H. Marinell, J.L. Steele, and S.A. Szczeniul. 2008. "Angling for Access, Bartering for Change: How Second-Stage Teachers Experience Differentiated Roles in Schools." *Teachers College Record* 110(5):1088-114.
- Isenberg, E., et al. 2009. *Impacts of Comprehensive Teacher Induction: Results From the Second Year of a Randomized Controlled Study*. Princeton, N.J.: Mathematica Policy Research.
- Jackson, C.K., and E. Bruegmann. 2009. "Teaching Students and Teaching Each Other: The Importance of Peer Learning for Teachers." Working Paper No. 15202. Cambridge, Mass.: National Bureau of Economic Research.
- Johnson, S.M., and the Project on the Next Generation of Teachers. 2004. *Finders and Keepers: Helping New Teachers Survive and Thrive in Our Schools*. San Francisco, Calif.: Jossey-Bass.
- Kane, T.J., and D.O. Staiger. 2008. "Estimating Teacher Impacts on Student Achievement: An Experimental Evaluation." Working Paper No. 14601. Cambridge, Mass.: National Bureau of Economic Research.
- Kapadia, K., V. Coca, and J. Easton. 2007. *Keeping New Teachers: A First Look at the Influences of Induction in the Chicago Public Schools*. Chicago, Ill.: Chicago Consortium for School Research.
- Kardos, S.M., S.M. Johnson, H.G. Peske, D. Kauffman, and E. Liu. 2001. "Counting on Colleagues: New Teachers Encounter the Professional Cultures of Their Schools." *Educational Administration Quarterly* 37(2):250-90.
- Liu, E. 2005. "Hiring, Job Satisfaction, and the Fit Between New Teachers and Their Schools." Paper presented at the annual meeting of the American Educational Research Association, Montreal, Canada, April 2005.
- Liu, E., and S.M. Johnson. 2006. "New Teachers' Experiences of Hiring: Late, Rushed, and Information-Poor." *Educational Administration Quarterly* 42(3):324-60.
- Louis, K.S., H.M. Marks, and S. Kruse. 1996. "School-Wide Professional Community." In F.M.A. Newmann, ed., *Authentic Achievement: Restructuring Schools for Intellectual Quality*. San Francisco, Calif.: Jossey-Bass.
- McCaffrey, D.F., J.R. Lockwood, D.M. Koretz, and L.S. Hamilton. 2003. *Evaluating Value-Added Models for Teacher Accountability*. Santa Monica, Calif.: RAND.
- Newmann, F.M., B. Smith, E. Allensworth, and A.S. Bryk. 2001. "Instructional Program Coherence: What It Is and Why It Should Guide School Improvement." *Educational Evaluation and Policy Analysis* 23(4):297-321.
- The New Teacher Project. 2009. *The Widget Effect: Our Nation's Failure to Acknowledge and Act on Differences in Teacher Effectiveness*. Washington, D.C.: New Teacher Project.
- Olson, L. 2004. "Researchers Debate Merits of 'Value-Added' Measures." *Education Week* 24(12):14-15.
- Rivkin, S.G., E.A. Hanushek, and J.F. Kain. 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):247-52.
- Rowan, B., R. Corenti, and R.J. Miller. 2002. "What Large-Scale Survey Research Tells Us About Teacher Effects on Student Achievement: Insights From the Prospects Study of Elementary Schools." Philadelphia, Pa.: Center for Policy Research on Education, University of Pennsylvania.
- Tyler, J.H., E. Taylor, T.J. Kane, and A. Wooten. 2009. "Using Student Performance Data to Identify Effective Classroom Practices." Draft Working Paper. Providence, R.I.: Brown University, and Cambridge, Mass.: Harvard University.
- Wright, S.P., S.P. Horn, and W.L. Sanders. 1997. "Teacher and Classroom Context Effects on Student Achievement: Implications for Teacher Evaluation." *Journal of Personnel Evaluation in Education*, pp. 57-67.
- York-Barr, J., and K. Duke. 2004. "What Do We Know About Teacher Leadership? Findings From Two Decades of Scholarship." *Review of Educational Research* 74(3):255-316.