



Teacher Preparation Makes a Difference

Winter 2009

Given the well-recognized need for a more highly skilled workforce and for increased national competitiveness in today's global economy, the importance of top flight teachers for our K-12 schools is clear. What apparently is not so obvious is that the superior teachers required of the complex, multi-cultural, fast-paced 21st century do not enter a classroom as a blank slate and learn on the job. They are schooled in their subjects and how students learn them; they are nurtured, tutored, practiced, observed, critiqued, corrected, and—in some cases—dissuaded from taking on the teaching challenge. Those who will become the outstanding teachers our nation needs *must be prepared* for the profession of teaching.

Characteristics of Well-Prepared Teachers

Research shows that teachers who make a positive difference in their students' learning have the following general and specific characteristics:

- **strong general intelligence and verbal ability** that help teachers organize and explain ideas as well as observe and think diagnostically;
- **strong content knowledge** up to a threshold level that relates to what is to be taught;
- **knowledge of how to teach others in their content area** (content pedagogy)—in using hands-on learning techniques and in developing higher-order thinking skills;
- **an understanding of learners and their development**, including how to assess and scaffold learning, how to assist students with learning differences, and how to support the learning of language and content for those not yet proficient in the language of instruction; and
- **adaptive expertise that allows teachers to make judgments** about what will likely work in a given context in response to students' needs.

Effects of Well-Prepared Teachers

Research also reveals that well-prepared teachers have positive impacts on the achievement of their students, on their own confidence from a sense of preparedness for teaching, and on their staying behavior—i.e., their retention in the field of teaching.

- **Teacher Preparation and Student Achievement**

Numerous studies find significant links between teacher preparation and student achievement. Teachers' licensure measures (including education coursework, credential status, and scores on licensure tests) are also linked to their students' performance. These relationships have been found at the level of the individual teacher, the school, the school district, and the state. Some examples are:

- The Louisiana board of Regents recently used its Value-Added Teacher Preparation Model to examine the effectiveness of its teacher preparation programs (Louisiana Board of Regents, 2008). The model predicts student achievement in grades 4-9, compares the prediction to student performance on several standardized tests, and compares the achievement of students taught by program graduates with that of similar students taught by certified teachers who had taught for two or more years. The Regents concluded that varying levels of effectiveness exist within and across teacher preparation programs and that certified teachers are more effective than teachers who are not certified to teach the content.
- A study of New York City Teaching Fellows on the effect of teacher qualifications on student achievement (Boyd, Lankford, Loeb, Rockoff & Wyckoff, 2008) shows the effects of a teacher's initial path into teaching on 4th and 5th graders' math performance. Graduates of collegiate preparation programs were significantly more effective than teachers lacking certification, and performed better than Teaching Fellows and Teacher for America (TFA) teachers.
- In a large-scale North Carolina study of learning gains high school students (Clotfelter, Ladd & Vigdor, 2007), teachers were found to be more effective if they had a standard license (compared to those entering without training), a license in the specific field taught, higher licensing exam scores, taught for more than two years, graduated from a more competitive college, and completed National Board certification. Each of these variables was statistically significant. Together, their combined effects were larger than the effects of race and parent education.
- Three recent, large, well-controlled studies, using longitudinal, individual-level student data from New York City and Houston (Boyd, Grossman, Lankford, Loeb & Wyckoff, 2006; Darling-Hammond, Holtzman, Gatlin, & Heilig, 2005; and Kane, Rockoff & Staiger, 2006), found that teachers who enter teaching without full preparation—as temporary or emergency hires or alternative route candidates—are less effective than fully-prepared beginning teachers with similar students.
- A Department of Education-commissioned review of fifty-seven rigorous studies (Wilson, Floden & Ferrini-Mundy, 2001) found positive relationships between teacher preparation and teacher effectiveness. Empirical relationships between teacher qualifications and student achievement were found across studies using different units of analysis and different measures of preparation and in studies controlling for students' socioeconomic status and prior academic performance. The positive effects of teachers' certification on students' mathematics achievement exceeded those of a content major in the field, suggesting that what licensed teachers learn in the pedagogical portion of their training adds to what they gain from a strong subject matter background (Goldhaber & Brewer, 2000).

- **Teacher Preparation and Sense of Preparedness**

- A survey by the National Comprehensive Center for Teacher Quality (Immerwahr, Doble, Johnson, Rochkind & Ott, 2007) compares responses of new teachers from three alternative programs (Teach for America, New Teacher Project, and Troops for Teachers) with those of new traditionally prepared teachers also teaching in high-needs schools. Only 50% of the alternate route teachers said they were prepared for their first year of teaching, compared with 80% of the traditionally prepared teachers.
- Over half (54%) of the alternative teachers in the above survey said they had too little time working with an actual public school teacher in a classroom environment, compared with only 20% of the traditionally prepared teachers. Whereas 94% of traditionally trained teachers in

the above survey expressed confidence that their students are learning and responding to their teaching, only 74% of alternative route teachers so responded.

- **Teacher Preparation and Retention**

Research shows that traditionally prepared candidates stay in teaching longer than those who are alternatively prepared. Two New York longitudinal studies (Boyd, Grossman, Lankford, Loeb & Wyckoff, 2006; and Kane, Rockoff & Staiger, 2006) found that NY Teaching Fellows left at rates just over 50% by year 4, at which point 80% of Teach for America (TFA) recruits, but only 37% of college-prepared teachers, had left teaching. An average of 80% of TFA teachers left their jobs in Houston by the 3rd year (Darling-Hammond, Holtzman, et al., 2005); in the Chicago Public Schools, which hires about 100 TFA teachers each year, fewer than half remained in teaching for a third year (Glass, 2008). National data show that 49% of uncertified entrants left teaching after five years, compared to only 14% of those who entered teaching fully prepared (Henke, et al., 2000).

References

- Clotfelter, C.T., Ladd, H.F., & Vigdor, J.L. (2007, November). *Teacher credentials and student achievement in high school: A cross-subject analysis with student fixed effects*. (Working Paper 13617). Cambridge, MA: National Bureau of Economic Research.
- Boyd, D., Grossman, P., Lankford, H., Loeb, S., & Wyckoff, J. (2006). How changes in entry requirements alter the teacher workforce and affect student achievement. *Education Finance and Policy*, 1(2), 176-216.
- Boyd, D., Lankford, H., Loeb, S., Rockoff, J. & Wyckoff, J. (2008, May). *The narrowing gap in New York City teacher qualifications and its implications for student achievement in high-poverty schools*. (Working Paper 14021). Cambridge, MA: National Bureau of Economic Research.
- Darling-Hammond, L. & Bransford, J. (2005). *Preparing teachers for a changing world: What teachers should learn and be able to do*. San Francisco: Jossey-Bass.
- Darling-Hammond, L., Holtzman, D., Gatlin, S.J., & Heilig, J.V. (2005). Does teacher preparation matter? Evidence about teacher certification, Teach for America, and teacher effectiveness. *Education Policy Analysis Archives*, 13(42). Retrieved July 23, 2008, <http://epaa.asu.edu/epa/v13n42>.
- Glass, Gene. (2008, May). *Alternative certification of teachers*. Arizona State University: Great Lakes Center for Education Research & Practice. Retrieved July 23, 2008, http://www.greatlakescenter.org/docs/Policy_Briefs/Glass_AlternativeCert.pdf.
- Goldhaber, D.D. & Brewer, D.J. (2000). Does teacher certification matter? High school certification status and student achievement. *Educational Evaluation and Policy Analysis*, 22, 129-145.
- Henke, R.R., Chen, X., Geis, S., & Knepper, P. (2000). *Progress through the teacher pipeline: 1992-93 college graduates and elementary/secondary school teaching as of 1997*. NCEES 2000-152. Washington, DC: National Center for Education Statistics.
- Immerwahr, J., Doble, J., Johnson, J., Rochkind, J., & Ott, A. (2007, December). *Lessons learned: New teachers talk about their jobs, challenges and long-range plans*. Washington, DC: National Comprehensive Center for Teacher Quality and Public Agenda. Retrieved July 23, 2008, https://www.policyarchive.org/bitstream/handle/10207/5573/lessons_learned_2.pdf?sequence=1.
- Kane, T.E., Rockoff, J.E., & Staiger, D.O. (2006, March). *What does certification tell us about teacher effectiveness? Evidence from New York City*. (Working Paper 11844). Cambridge, MA: National Bureau of Economic Research.
- Louisiana Board of Regents. (2008). Regents Study Shows Teacher Certification Matters. <http://www.regents.la.gov/pdfs/PubAff/2008/Value%20Added%20Release12-03-08.pdf>
- Wilson, S., Floden, R., & J. Ferrini-Mundy. (2001). Teacher preparation research: Current knowledge, gaps, and recommendations. University of Washington: Center for the Study of Teaching and Policy.