New Teacher Center @ UCSC

NTC POLICY BRIEF

NEW TEACHER CENTER AT THE UNIVERSITY OF CALIFORNIA, SANTA CRUZ FALL 2007

New Teacher Support Pays Off:

A Return on Investment for Educators and Kids

The quality of a child's teacher is the most important school-based factor determining how much that child learns.[1] Research provides convincing evidence that students taught by effective teachers perform dramatically better than those assigned to ineffective teachers.[2] These high-quality teachers, however, are not equally distributed across schools and districts; poor and minority students are less likely to have fully-licensed, highly qualified teachers.[3] One study found that poor and minority students that have an effective teacher four years in a row can achieve at the same levels as their more affluent white peers.[4]

New teacher support is a critical component of a comprehensive solution to achieving excellence in teaching quality. High-quality support programs for new teachers—often referred to as **induction programs**—not only increase the retention of beginning teachers, but also their impact on student learning. The staff of the New Teacher Center at the University of California, Santa Cruz (NTC) has two decades of experience developing induction programs that support and strengthen new teacher practice.

This Policy Brief describes why high-quality induction programs are an efficient and effective use of public resources. This evidence should help to convince policymakers to invest in such programs. Equally important, it also makes the case for public policies that strengthen the quality of induction programs, maximizing their beneficial impact on educators and the students they teach.

1 Steven G. Rivkin, Eric A. Hanushek, and John F. Kain. (2005.) "Teachers, Schools, and Academic Achievement." Econometrica: Princeton, NJ.

2 William L. Sanders and June C. Rivers. (1996.) "Cumulative and Residual Effects of Teachers on Future Student Achievement," University of Tennessee Value-added Research and Assessment Center, Knoxville, Tennessee. June C. Rivers-Sanders. (1999.) "The Impact of Teacher Effect on Student Math Competency Achievement." Ph.D dissertation. University of Tennessee: Knoxville, TN. Jennifer Presley, Bradford R. White and Yuqin Gong. (2005.) "Examining the Distribution and Impact of Teacher Quality in Illinois." Illinois Education Research Council: Edwardsville, IL.

3 Daniel C. Humphrey, Julia E. Koppich and Heather J. Hough. (March 3, 2005.) "Sharing The Wealth: National Board Certified Teachers and The Students Who Need Them Most." Education Policy Analysis Archives: Tempe, AZ. [Available at: http://epaa.asu.edu/epaa/v13n18.] Charles Clotfelter, Helen F. Ladd, Jacob Vigdor and Justin Wheeler. (March 2007.) High-Poverty Schools and The Distribution of Teachers and Principals (Working Paper). Urban Institute, National Center for Analysis of Longitudinal Data in Education Research: Washington, DC. [Available at: http://www.caldercenter.org/PDF/1001057_High_Poverty.pdf.]

4 Robert Gordon, Thomas J. Kane, and Douglas O. Staiger. (2006.) "Identifying Effective Teachers Using Performance on the Job." The Brookings Institution: Washington, DC.

High-Quality Induction

Not all programs that support new teachers are created equal. They vary in quality from old-fashioned "buddy systems" to comprehensive, systematized induction programs that use trained mentors and provide structured time for interaction focused on improving new teachers' content, classroom management, and instructional skills. In order to be effective, induction programs must move beyond informal mentoring that provides periodic or haphazard logistical and psychological support to new teachers. Comprehensive induction models that focus on improving classroom practice and offer opportunities for continuous professional growth are needed to develop more confident and more effective teachers.

Elements of High-Quality Induction

NTC research and experience suggests some critical elements that high-quality induction programs have in common:

- A multi-year program, spanning at least the first two years of teaching;
- Sanctioned time for mentor-new teacher interaction;
- Rigorous mentor selection criteria;
- Initial training and on-going professional development and support for mentors;
- Pairing of new teachers and mentors in similar subject areas and grade levels; and
- Documentation and evidence of new teacher growth.

Induction programs coincide with a formative stage of a teacher's career. Research shows that teacher experience is unrelated to effectiveness, except during the initial years in the profession.[5] High-quality induction programs can address this challenge by accelerating new teachers' professional growth and making them more effective practitioners during their early years in the classroom.

High-quality induction programs also improve teacher retention, where lesser quality approaches do not. Research by Thomas Smith of Vanderbilt University and Richard Ingersoll of the University of Pennsylvania has shown that more than half of all teachers receive only basic on-the-job support that provides no significant benefits. The one-year attrition rate for these teachers is almost identical to that for teachers who receive no induction support at all (39% vs. 41%). High intensity induction programs reduce the one-year attrition rate to 18%. Despite the power of this approach, less than 1% of new teachers currently benefit from high intensity induction programs.[6]

While all schools and students can benefit from more effective teachers, the power of high-quality induction holds special promise for hard-to-staff schools that serve disproportionately low-income and minority students, where teacher turnover is rampant, and which often employ a disproportionately high percentage of inexperienced and out-of-field teachers. High-quality induction programs can develop the human capacity that these high-need schools require for success. Without teachers at the heart of a functioning learning community that nurtures professional growth, the academically disadvantaged students who overwhelmingly populate these schools will continue to flounder.

The cost of high-quality induction programs often dissuades policymakers and school administrators from authorizing and implementing them. The annual per teacher cost of such programs can run as high as $6,000-$7,000; however, a recent study pegged the cost of a single teacher leaving urban school districts including Milwaukee Public Schools and Chicago Public Schools at $15,325 and $17,872, respectively.[7]

Numerous school districts and some states have begun to recognize the importance of supporting new teachers through high-quality induction. States such as California and Oregon and urban districts such as Chicago, Durham and Memphis are examples of places that have prioritized the development of policies and program infrastructure to implement comprehensive, robust induction programs.

Policymakers should consider comprehensive policy strategies to address teacher preparation and recruitment—particularly in hard-to-staff schools and subject areas—but they also must focus on supporting

5 Eric A. Hanushek, John F. Kain, Daniel M. O'Brien, and Steven G. Rivkin. (2005.) "The Market for Teacher Quality." NBER Working Paper 11154. National Bureau of Economic Research: Cambridge, MA. [Available at: http://www.nber.org/papers/w11154.]

6 Thomas M. Smith and Richard M. Ingersoll. (2004.) "What Are The Effects of Induction and Mentoring on Beginning Teacher Turnover?" American Educational Research Journal: Washington, DC. [Available at: http://www.gse.upenn.edu/faculty_research/Smith&IngersollAERJInductionMay2004.pdf.]

7 Gary Barnes, Edward Crowe, and Benjamin Schaefer. (2007.) The Cost of Teacher Turnover in Five School Districts: A Pilot Study. National Commission on Teaching and America's Future (NCTAF): Washington, DC. [Available at: http://www.nctaf.org/resources/demonstration_projects/turnover/TeacherTurnoverCostStudy.htm.]; Thomas G. Carroll. (2007.) Policy Brief: The High Cost of Teacher Turnover. NCTAF: Washington, DC.

these new educators to succeed and stay in the profession. Without assistance and mentoring from a carefully selected and trained veteran teacher, most new teachers will struggle, some will leave the school or the profession entirely, and all will fail to be as effective as they could be given such professional support.

The NTC has research evidence, demonstrating that high-quality induction programs not only increase the retention of beginning teachers (consistent with Ingersoll and Smith's work), but also improve their teaching practice and raise student achievement. One study documented the Santa Cruz/Silicon Valley New Teacher Project in California as having a new teacher retention rate of 88% after six years.[8] Another found that the students of beginning teachers who received comprehensive, multi-year induction support achieved reading gains at rates not significantly different from those of more experienced teachers in the same district.[9] More than just a response to teacher shortages, high-intensity educator induction programs strengthen the capacity of educators to improve student learning.

NTC Research Study: Is Mentoring Worth the Money? A Benefit-Cost Analysis and Five-Year Rate of Return of a Comprehensive Mentoring Program for Beginning Teachers

While most discussions of the benefits of induction focus on the savings from reduced teacher turnover to justify program investments,[10] a new NTC study demonstrates induction's potential for improving student learning, in addition to keeping teachers in the classroom. By measuring the full range of benefits related to induction, this study demonstrates a significant return on investment from expenditures on high-quality induction programs.

The November 2007 issue of *ERS Spectrum*—a peer-reviewed research journal for researchers and administrators—publishes the findings of this benefit-cost study by NTC researchers Anthony Villar and Michael Strong. Using evidence from one medium-sized California school district, the article describes how every $1.00 invested in a comprehensive induction program produces a return of $1.66 after five years, adjusted for inflation. [11]

Costs

In order to provide an estimate of the potential return on the investment in a comprehensive mentoring program for beginning teachers, NTC researchers collected actual cost data for the Santa Cruz New Teacher Project across all its local contexts, calculated the measured benefits, assigning them a monetary value where possible, and computed the net present value over five years. They looked at net benefits and costs from multiple perspectives: the state, the district, the school, the teacher, and the student. The total of all these represents the net benefit or cost to society.

The analysis included all major and minor costs for providing high-quality new teacher support, including personnel, indirect costs (facilities, equipment & materials), program inputs (such as room rental and substitute teachers), and client inputs (such as teachers' personal time). Total costs for a district induction program supporting 119 new teachers are approximately $786,000, representing a per teacher cost of $6,605. The district pays about 35% of these costs, the state of California pays about 56% through the Beginning Teacher Support and Assessment Program, and the balance reflects the additional time burden of implementing the program on administrators and teachers.

Benefits

Benefits include potential savings to districts in increased teacher retention, increased new teacher effectiveness, and the time savings to principals for reducing need to monitor beginning teachers. The study compared published state and national retention data with district data for the program. In addition, five years of student test score data were analyzed. Gains in student achievement for new teachers who had been mentored versus veteran teachers who had not previously been in a comprehensive induction program demonstrated that **new teachers were, on average, as effective as fourth-year teachers.** [12] By

8 Michael Strong. (2005.) Research Brief: Mentoring New Teachers To Increase Retention. New Teacher Center: Santa Cruz, CA. [Available at: http://www.newteachercenter.org/pdfs/NTCResearchBrief.05-01.pdf.]

9 Michael Strong. (2006.) Research Brief: Does New Teacher Support Affect Student Achievement? New Teacher Center: Santa Cruz, CA. [Available at: http://www.newteachercenter.org/pdfs/NTCResearchBrief.06-01.pdf.]

10 Ed Fuller. (2000.) The cost of teacher turnover. A Report prepared for the Texas State Board for Educator Certification. Texas Center for Educational Research: Austin, TX; Carroll. (2007.) Policy Brief: The High Cost of Teacher Turnover.

11 Anthony Villar & Michael Strong. (November 2007.) "Is Mentoring Worth the Money? A Benefit-Cost Analysis and Five-year Rate of Return of a Comprehensive Mentoring Program for Beginning Teachers." ERS Spectrum: Alexandria, VA. In press. [Available at: http://www.newteachercenter.org/cgi-bin/norti_area/research.cgi.]

12 Michael Strong, Stephen Fletcher, and Anthony Villar. (2008.) "An Investigation of the Effects of Variations in Mentor-Based Induction on the Performance of Students in California." Teachers College Record: New York, NY. In press.

looking at the salary differential between beginning and more veteran teachers, this apparent benefit afforded by the induction program can be monetized. In total, the study found that 47% of the benefits were attributable to enhanced teacher effectiveness and 17% to turnover cost savings.

Analysis of Costs and Benefits

net present value of return on investment

	Costs	Benefits	Return on $1.00
Student	$0	$1,926	∞
New Teacher	$953	$3,448	$3.61
District	$4,813	$9,088	$1.88
State	$7,189	$7,080	$0.98
Total	$12,955	$21,542	$1.66

Cost-Benefit Analysis

The study demonstrates that high-quality induction programs provide a positive return on investment both because beginning teachers stay in greater numbers and because those who stay are more effective. Specifically, the study shows that subtraction of per-teacher costs of about $13,000 from the benefits of almost $21,500 results in a return of a little over $8,500 per teacher after five years. **When costs and benefits are summed up for society the program secures a return after five years of $1.66 for every dollar invested.**

Because costs are incurred only in the first two years, but benefits continue to accrue, the net present value of the program can be calculated for each interested constituent. When each constituency is taken to account, the returns on time and program resources expended show that all four groups – students, new teachers, districts and the state – all benefit from the investment in comprehensive induction. Students, who invest not a dollar, proportionally benefit the most, followed by new teachers who earn a return of $3.61 per dollar, and the district at $1.88 per dollar. Even the state recoups 98 cents on the dollar from its original investment.

This study takes a conservative approach to estimating the benefits that accrue as a result of high-quality induction. Other possible program benefits not measured in the study include the impact on student achievement beyond the five-year period studied, and the influence of the mentoring experience on the teaching skills, leadership capabilities, and job satisfaction of the mentor teacher.

For a more detailed summary of the study, please refer to the NTC Research Brief, *The Costs and Benefits of A Comprehensive Induction Program*, June 2007.

Conclusion

Too often overlooked in the quest for school improvement is a focus on the professionals who can make it happen. Strengthening the capacity of public school teachers is a cost-effective way to accomplish what policymakers, practitioners and parents each seek: greater student learning. However, such professional development must be structured in a way that serves the best interests of teachers and students. High-quality induction for new educators meets that test.

The cost-benefit analysis described in this Policy Brief makes the case that comprehensive, intensive support programs for new educators are both an effective and an efficient public investment. High-quality teacher induction and mentoring programs can reduce the rate of new teacher attrition, accelerate the professional growth of beginning teachers, and provide a positive return on investment through reduced personnel costs and enhanced student learning. Hopefully, this evidence will provide education policymakers and administrators with valuable information to guide them in the effective allocation of public education dollars.

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