



Transfer Incentives for High-Performing Teachers

In a recent study, monetary incentives successfully attracted high-performing teachers to fill targeted teaching vacancies in low-performing schools and raised math and reading test scores in elementary schools. There was no evidence that they raised test scores in middle schools.

Background

There is growing concern that the nation's most effective teachers are not working in the schools with the most disadvantaged students.ⁱ Evidence on teacher-effectiveness gaps, as measured by teachers' contribution to student achievement growth ("value added"), is just emerging, but with some exceptions, researchers are finding that the distribution of effective teachers tends to favor schools with lower poverty levels. To improve student performance in schools serving disadvantaged students, one potential strategy is to use monetary incentives to recruit teachers who are most successful in raising student test scores to transfer to teach in these schools.ⁱⁱ

The Study

To provide research evidence for policymakers and school districts seeking ways to address the shortages of effective teachers in high-need schools, the U.S. Department of Education's Institute of Education Sciences sponsored a multi-site randomized experiment. The study tested a transfer incentive intervention similar to strategies tried in places like Mobile, Alabama; Chattanooga, Tennessee; Palm Beach, Florida; and the states of California and Virginia.ⁱⁱⁱ The intervention has the potential to redistribute some of the highest-performing teachers in a district from higher-achieving schools to lower-achieving schools and thus help improve teaching and learning in those schools. The study was conducted by Mathematica Policy Research.

The Intervention

Known to participants as the Talent Transfer Initiative (TTI), the intervention offered \$20,000 to highest-performing teachers if they transferred to and committed to staying in designated low-achieving schools for at least two years. Schools in participating districts were classified as i) *potential receiving schools* – those with the lowest achievement in the district, based on school-average test scores in the most recent year, or ii) *potential sending schools* – all other schools in the district. There were some rare exceptions for schools that were exempted from the study altogether because they were already involved with a comparable intervention. Within each district, the highest-performing teachers were identified as those, within tested grades and subjects (grades 3 through 8 math and reading or English/language arts), in the top 20 percent based on their estimated value-added. The highest-performing teachers in potential sending schools were eligible to participate in TTI by applying to and transferring to a lower-achieving receiving school that had been selected to be in the study and had a teaching vacancy in one of the targeted grades and subjects. The implementation team conducted an information session about the initiative, encouraged eligible teacher participation, and arranged principal-teacher interviews to facilitate the hiring process within each district. Finally, a half-day orientation session within each district was provided for all highest-performing teachers who participated in the TTI and transferred to a participating lower-achieving

receiving school to facilitate transition to their new position. These TTI transfer teachers were paid \$20,000 over two years if they remained in their positions. Several of the identified highest-performing teachers were already teaching in potential receiving schools. Those individuals were paid a retention stipend of \$10,000 spread over two years if they remained in their school.

Key Findings

Of the 1,514 high-performing teachers identified as transfer candidates across the 10 districts, 22 percent attended an information session and 5 percent transferred. Nevertheless, almost 9 out of 10 teacher vacancies in the study (88 percent) were filled by the highest-performing teachers through TTI. In elementary schools, TTI had a positive impact on math and reading test scores. In middle schools, there was no evidence that the intervention raised test scores. Combining the elementary and middle school data, the overall impacts were positive and statistically significant for math in both of the two years that we followed up, and for reading only in the second year.

Implications

The study showed that at the elementary school level, TTI had positive impacts on test scores. To provide a point of comparison, the study compared the cost of generating the impacts of TTI with generating impacts using an alternative policy such as class size reduction. TTI in elementary schools was the cheaper alternative by approximately \$13,000 per teacher team. However, overall cost-effectiveness varied, depending on a number of factors, such as what happens after the last installments of the incentive are paid out after the second year.

Sample and Methods

Random assignment was used to form a treatment and a control group within each district in order to compare outcomes of TTI with outcomes that would have been observed in the absence of TTI. The study

identified vacancies in low-achieving schools. Within each district, teaching vacancies across schools in the same grade/subject were randomly assigned to either treatment status (with the opportunity to fill the teaching vacancy with a TTI teacher) or control status (in which vacancies were filled through whatever process the school would normally use). For example, consider two schools, A and B, each of which had one vacancy in the grade 3 teacher team. The grade 3 teacher team in school A was randomly assigned to treatment and thus was eligible to fill a vacancy through TTI; the grade 3 teacher team in school B was consequently assigned to control status, in which normal hiring practices were to be followed. This process repeated across the study sample created two groups of teacher teams that were theoretically, on average, similar in terms of student characteristics and school context. The only systematic difference between the two groups was whether, in hiring for the vacancy, there was the opportunity to hire a teacher eligible for the \$20,000 transfer incentive. Comparing outcomes for these groups generated unbiased estimates of the impact of TTI on student achievement and other outcomes. It is expected that much of the effect of TTI operated directly through the teacher who filled the designated vacancy, also known as the focal teacher. Thus, outcomes for the treatment focal teachers and their counterparts within the control teams were also compared.

Ten school districts in seven states participated in the study, contributing both elementary schools (grades 3 through 5 or 6) and middle schools (grades 6 through 8) except for three that contributed only elementary schools or only middle schools. The report covers two program years, 2009-10 and 2010-11; for three districts that began participating in the second year, the report includes information from 2010-11 only. The analyses included 85 teacher teams across 114 schools with such grade teams that had been randomly assigned to treatment or control status. Math and reading achievement were measured with scores on state assessments.

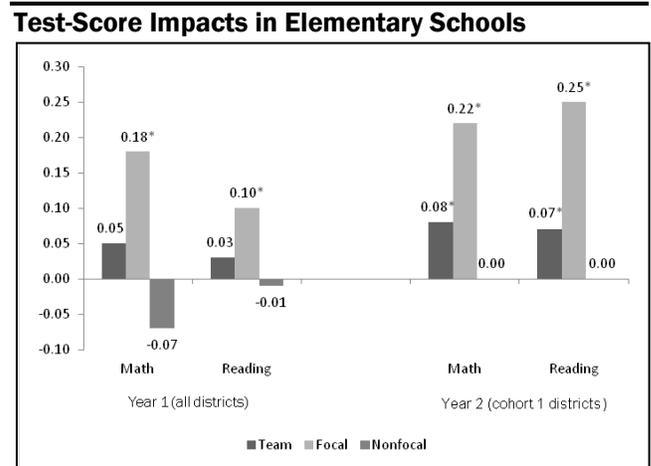
Findings in Detail

The study compared the impact of filling vacancies normally and under TTI. To read the full report, <http://ies.ed.gov/ncee/pubs/20144003/>.

1. In Elementary Schools, TTI Teachers Were More Effective Than Teachers Who Would Have Filled the Vacancy in the Absence of TTI

- Comparing the randomly assigned teacher teams, we estimated that the impacts on state test scores were positive for both subjects, but they were statistically significant only in the second year of implementation (Figure 1): 0.08 standard deviations for math and 0.07 standard deviations for reading, which are large enough to move the average student in the intervention group up about three percentile points relative to the rest of their state. The impact estimates for focal teachers ranged from one-tenth to one-quarter of a standard deviation, depending on subject and implementation year, and were positive and statistically significant for both subjects in both implementation years. This is equivalent to moving the average student up by 4 to 10 percentile points. The impacts on students of nonfocal teachers – that is, the peers of focal teachers on the same teams – were not statistically significantly different from zero in either year or subject. This suggests that the TTI teachers have minimal or no effect on their colleagues' performance.

Figure 1.



Source: District administrative data.

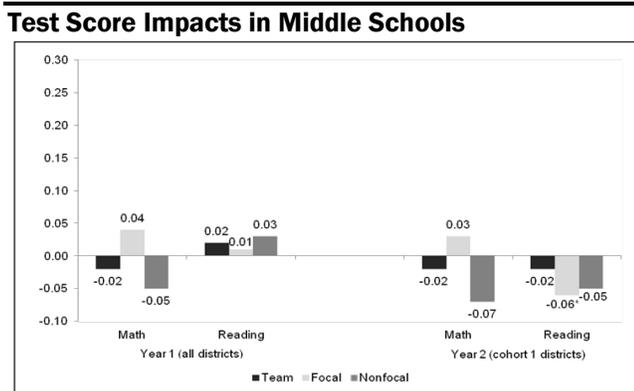
Note: A team consists of all classroom teachers in the grade and subject for a school. Focal teachers are those who filled study vacancies. Nonfocal teachers are the rest of the teachers on the team.

*Statistically significant at the 0.05 level, two-tailed test.

2. In Middle Schools, There Was No Evidence That TTI Raised Test Scores

- None of the impact estimates in middle schools were statistically significant for program years 1 and 2 (Figure 2) except for the year 2 focal teacher impact on reading, which was negative (-0.06 standard deviations). This finding may be a middle school phenomenon or may be a result of the particular districts where middle schools were most heavily represented. Because the percentages of study teams that were elementary versus middle school teams differed across districts, it is not possible to disentangle whether the variation in impacts across different grade spans was due to real differences in the impact of the policy in elementary versus middle schools or to differences in impacts due to district-specific factors.

Figure 2.



Source: District administrative data.

*Statistically significant at the 0.05 level, two-tailed test.

3. Most TTI Teachers Were Retained, Even After Two Years, When Payments Had Ended

- After the first year, when TTI teachers were still receiving payments for remaining in their schools, there was a statistically significant difference in school retention between treatment and control focal teachers of 22 percentage points (93 versus 70 percent, respectively).^{iv} After the second (last) program year – after TTI transfer teachers had received their final payments – the treatment-control difference was not statistically significant. Still, a majority of treatment focal teachers (60 percent) returned to their schools for a third year after payments had ended.

ⁱ Dan Goldhaber, “Addressing the Teacher Qualifications Gap: Exploring the Use and Efficacy of Incentives to Reward Teachers for Tough Assignments.” Washington, DC: Center for American Progress 2008; Heather Peske and Kati Haycock, “Teaching Inequality: How Poor and Minority Students Are Shortchanged on Teacher Quality,” Washington, DC: The Education Trust, June 2006.

ⁱⁱ Steven Glazerman and Jeffrey Max, “Do Low-Income Students Have Equal Access to the Highest-Performing Teachers?” *NCEE Evaluation Brief*. Washington, DC: U.S. Department of Education, Institute of Education Sciences, April 2011; Tim Sass, Jane Hannaway, Zeyu Xu, David Figlio, and Li Feng, “Value Added of Teachers in High-Poverty Schools and Lower-Poverty Schools.” *Journal of Urban Economics*, vol. 72, nos. 2-3, September-November 2012, pp. 104-122.

ⁱⁱⁱ Jeffrey Max, Allison McKie, and Steven Glazerman. “Feasibility of a Star Teacher Demonstration,” Washington, DC: Mathematica Policy Research, February 2007.

^{iv} This impact estimate is calculated as the difference between the unrounded treatment and control means.

IES develops these study snapshots to offer short, accessible summaries of complex technical evaluation reports. For the full report with technical details, see <http://ies.ed.gov/ncee/pubs/20144003/pdf/20144003.pdf>.

Glazerman, Steven, Ali Protik, Bing-ru Teh, Julie Bruch, and Jeffrey Max. (2013). *Transfer Incentives for High-Performing Teachers: Final Results from a Multisite Randomized Experiment (NCEE 2014-4003)*. Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education.