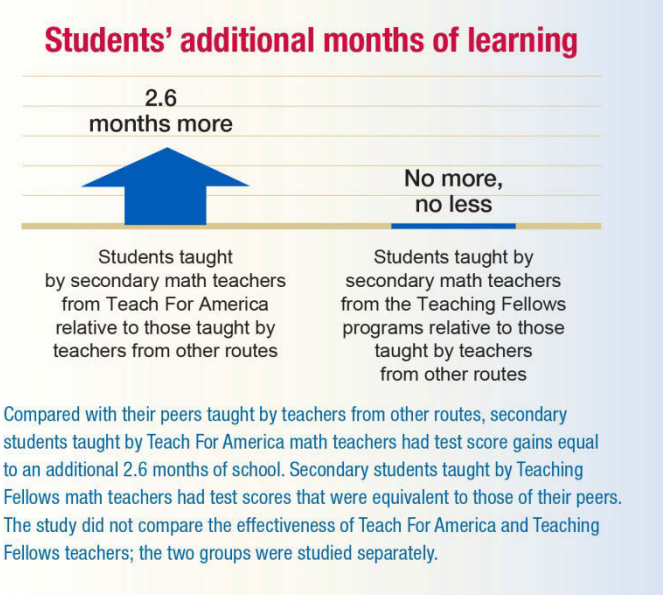

Compared with their peers taught by teachers from other routes, secondary students taught by Teach For America math teachers had test score gains equal to an additional 2.6 months of school. Secondary students taught by Teaching Fellows math teachers had test scores that were equivalent to those of their peers. The study did not compare the effectiveness of Teach For America and Teaching Fellows teachers; the two groups were studied separately.

How Effective Are Secondary Math Teachers from Teach For America and the Teaching Fellows Programs?

This study found that secondary math teachers from Teach For America were more effective than other math teachers in the same schools; secondary math teachers from Teaching Fellows programs were just as effective as other math teachers in the same schools.

The policy context

High-poverty schools across the country struggle to attract effective teachers, particularly in science and math. Highly selective alternative certification route programs such as Teach For America (TFA) and the TNTP Teaching Fellows programs are designed to address this problem by providing a source of qualified teachers for hard-to-staff schools and subjects. However, critics contend that teachers from these programs are not as well prepared as, and therefore less effective than, teachers who follow a traditional path into the profession. In addition, because TFA asks its teachers to make only a two-year commitment to teaching (although they can choose to remain longer), critics contend that TFA teachers tend to be less experienced, and therefore less effective, than teachers from other routes.[i]

Program details

TFA and the Teaching Fellows programs attempt to fill teaching shortages by providing an alternative route into the profession for promising candidates without prior training in education. Both programs recruit high-achieving college graduates and professionals, provide them with five to seven weeks of full-time training, and place them in high-poverty schools, often to teach hard-to-staff subjects. Unlike most alternative routes into teaching, TFA and the Teaching Fellows programs are highly selective, admitting less than 15 percent of applicants.[ii]

Study approach

This study focused on secondary math because it is a hard-to-staff subject for which student outcome measures were readily available. At the beginning of the school year (2009-10 or 2010-11), students enrolled in a given math course in a participating school were randomly assigned to a class taught by a teacher from the program being studied (TFA or a Teaching Fellows program) or to a class taught by a teacher from some other teacher preparation route (the "comparison teacher").

At the end of the year, researchers compared the math achievement of students assigned to the different types of teachers. Math achievement was measured with scores on state math assessments for middle school students and with scores on subject-specific exams from the Northwest Evaluation Association for high school students. Because students were assigned to teachers randomly within the study schools, any differences between student scores across types of teach-

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ers reflected differences in teacher effectiveness rather than pre-existing differences between the students they taught or the schools in which they taught.

Comparison teachers included those from traditional routes to certification (those who completed all requirements for certification, typically through an undergraduate or graduate program in education, before they began to teach) and teachers from less selective alternative routes to certification (programs that allowed teachers to begin to teach before completing all requirements for certification, but that were not as selective as TFA and the Teaching Fellows programs).

Most TFA and Teaching Fellows teachers in the study taught in different schools and districts, and students were not randomly assigned between TFA and Teaching Fellows teachers. As a result, the study cannot compare these teachers' effectiveness. Instead, the two groups were studied separately. The TFA analysis included 4,573 students, 136 math teachers, 45 schools, and 11 districts in 8 states. The Teaching Fellows analysis included 4,116 students, 153 math teachers, 44 schools, and 9 districts in 8 states.

TFA and the Teaching Fellows programs may attract different types of candidates than other routes to certification—these differences can arise both from the programs' approaches to recruitment and selection and from the teachers' decisions on which programs to apply to and attend. Therefore, differences in effectiveness between TFA teachers and comparison teachers, and between Teaching Fellows and comparison teachers, reflect the influence of both differences in the types of individuals who choose to enter teaching through TFA or a Teaching Fellows program versus some other training program and differences in the recruitment and selection procedures and training and support the programs offer. The study cannot rigorously disentangle these components.

The findings

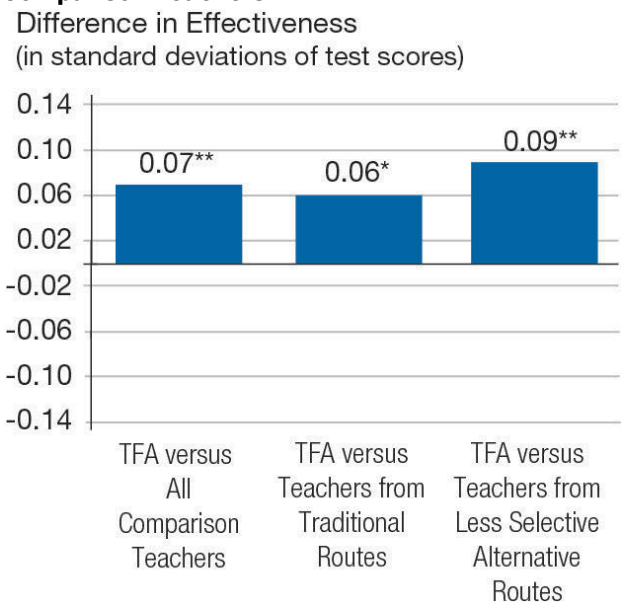
The study found some differences in effectiveness both between TFA teachers and comparison teachers and between Teaching Fellows and comparison teachers.

1. TFA Teachers Were More Effective Than Comparison Teachers

- On average, students assigned to TFA teachers had higher math scores at the end of the school year than students assigned to teachers from other routes to certification (Figure 1). Being taught by a TFA teacher boosted students' math scores by 0.07 standard deviations. This difference is about the same size as the achievement gain we would expect to see if the average secondary student nationwide received an additional 2.6 months of math instruction.

Figure 1.

TFA Teachers Were More Effective than Comparison Teachers

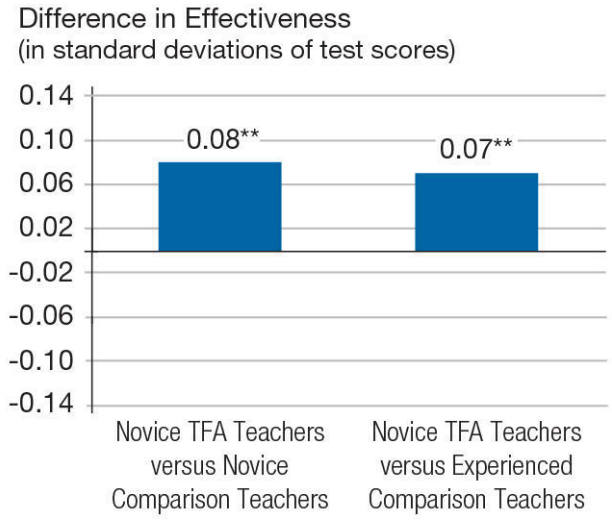


Sources: Estimates based on district administrative records and study-administered Northwest Evaluation Association (NWEA) assessments.
* Estimate is statistically significant at the 0.05 level based on a two-tailed test.
** Estimate is statistically significant at the 0.01 level based on a two-tailed test.

- The study found that TFA teachers were more effective than other teachers in the same schools regardless of the comparison teachers' route to certification or years of teaching experience. Students of TFA teachers outperformed those of teachers from less selective alternative routes (by 0.09 standard deviations) and from traditional routes (by 0.06 standard deviations).
- On average, students assigned to novice TFA teachers had higher math scores than students assigned to more experienced teachers from other routes to certification (Figure 2). Students of inexperienced TFA teachers (those in their first three years of teaching) outperformed students of more experienced comparison teachers (by 0.07 standard deviations). Novice TFA teachers were also more effective than novice comparison teachers.

Figure 2.

Novice TFA Teachers Were More Effective than Both Novice and Experienced Comparison Teachers



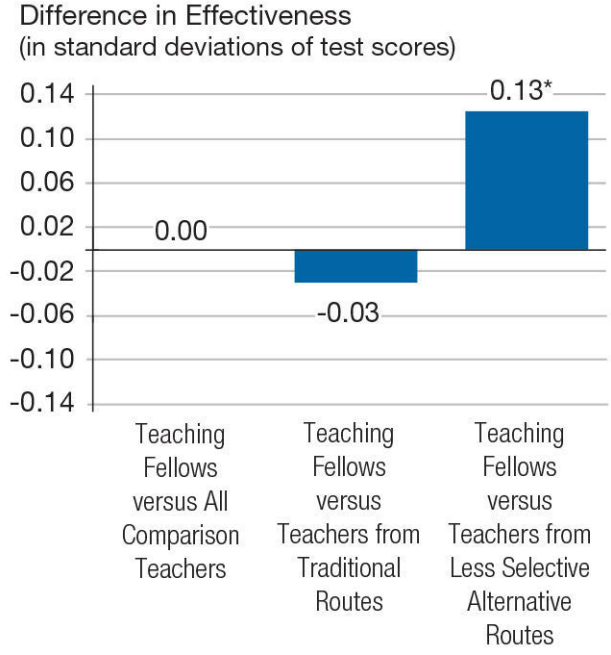
Sources: Estimates based on district administrative records and study-administered Northwest Evaluation Association (NWEA) assessments.
** Estimate is statistically significant at the 0.01 level based on a two-tailed test.

2. Teaching Fellows Were Just as Effective as Comparison Teachers

- Students of Teaching Fellows and comparison teachers had similar scores, on average, on the math tests they took at the end of the school year (Figure 3). This means that, on average, Teaching Fellows were neither more nor less effective than the comparison teachers.

Figure 3.

Teaching Fellows Teachers Were Just as Effective as, and in Some Cases More Effective than, Comparison Teachers



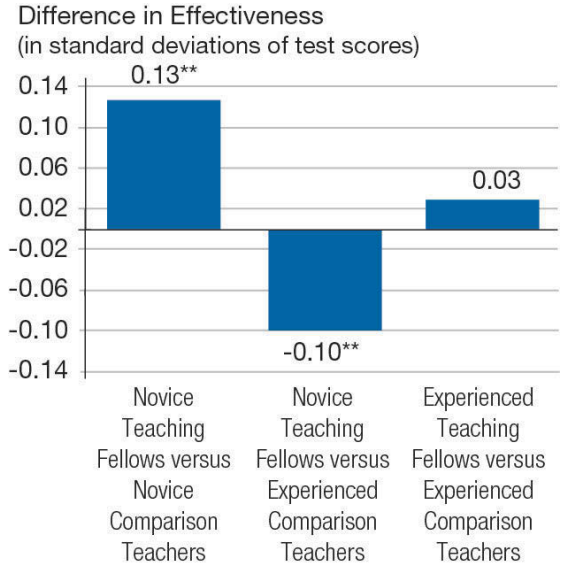
Sources: Estimates based on district administrative records and study-administered Northwest Evaluation Association (NWEA) assessments.
* Estimate is statistically significant at the 0.05 level based on a two-tailed test.

- The study found that effectiveness varied depending on the comparison teachers examined (Figure 3). Teaching Fellows were more effective than teachers from less selective alternative routes to certification (by 0.13 standard deviations), but neither more nor less effective than teachers from traditional routes to certification.
- The study found that effectiveness varied depending on the experience of the teachers who were compared. Novice Teaching Fellows (those in their first three years of teaching) were more effective than novice comparison teachers (by 0.13 standard deviations) and less effective than more

experienced comparison teachers (by 0.10 standard deviations). There was no difference in effectiveness between Teaching Fellows and comparison teachers with more experience (Figure 4).

Figure 4.

Novice Teaching Fellows Teachers Were More Effective than Novice Comparison Teachers and Less Effective than Experienced Comparison Teachers; Experienced Teaching Fellows Were Neither More Nor Less Effective than Experienced Comparison Teachers



Sources: Estimates based on district administrative records and study-administered Northwest Evaluation Association (NWEA) assessments.
** Estimate is statistically significant at the 0.01 level based on a two-tailed test.

Implications

The study suggests that TFA and the Teaching Fellows programs offer promising options for high-poverty secondary schools that are similar to those in the study and that are facing staffing shortages in math.

The main finding from the study of TFA suggests that, on average, principals of the secondary schools in the study would raise student math achievement by hiring a TFA teacher rather than a teacher from a traditional or less selective alternative route to teach the math classes examined in the study. Although the TFA teachers in the study were less experienced, on average, than the comparison teachers, students of TFA teachers outperformed students of other teachers in the same grades and schools by a statistically significant margin. This result held true whether the comparison teachers were from traditional routes or less selective alternative routes. Similarly, students of TFA teachers in their first three years of teaching outperformed students of other novice teachers in the same grades and schools as well as students of more experienced teachers. This latter finding is particularly important given the fact that TFA requires its teachers to make only a limited commitment to teaching.

The main findings for the Teaching Fellows programs suggest that, on average, principals of secondary schools would expect similar student math achievement when choosing between Teaching Fellows, on the one hand, and math teachers from traditional or less selective alternative routes, on the other hand. The study does suggest that principals faced with more specific choices could in some cases expect higher student math achievement, on average, by hiring Teaching Fellows. For example, faced with the choice of hiring a Teaching Fellow or a teacher from a less selective alternative route, the principal should expect higher student achievement from hiring the Teaching Fellow. Similarly, if choosing between a novice Teaching Fellow and a novice teacher from either a traditional or less selective alternative route, the principal should expect higher student achievement from hiring the Teaching Fellow.

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/pubsearch.pubsinfo.asp?pubid=NCEE20134015.

Clark, Melissa A., Hanley S. Chiang, Tim Silva, Sheena McConnell, Kathy Sonnenfeld, Anastasia Erbe, and Michael Puma. (2013). The Effectiveness of Secondary Math Teachers from Teach For America and the Teaching Fellows Programs (NCEE 2013-4015). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education.

[i] Information on difficulties faced by high-poverty schools in attracting effective math and science teachers is from: Ingersoll, Richard M., and David Perda. "The Mathematics and Science Teacher Shortage: Fact and Myth." CPRE Research Report #RR-62. Philadelphia, PA: University of Pennsylvania, Consortium for Policy Research in Education, 2009. Ingersoll, Richard M., and Henry May. "The Magnitude, Destinations, and Determinants of Mathematics and Science Teacher Turnover." *Educational Evaluation and Policy Analysis*, vol. 34, no. 4, 2012, pp. 435-464. Arguments that teachers from alternative routes are not well-prepared for the classroom can be found in: Darling-Hammond, Linda. "Teaching and Knowledge: Policy Issues Posed by Alternate Certification for Teachers." *Peabody Journal of Education*, vol. 67, no. 3, Spring 1990, pp. 123-154. Darling-Hammond, Linda. "How Teacher Education Matters." *Journal of Teacher Education*, vol. 51, no. 3, May/June 2000, pp. 166-173. The contention that, because TFA asks its teachers to make only a two-year commitment to teaching, its teachers tend to be less experienced, and therefore less effective, than teachers from other routes can be found in: Heilig, Julian Vasquez, and Su Jin Jez. "Teach For America: A Review of the Evidence." East Lansing, MI: The Great Lakes Center for Education Research and Practice, June 2010.

[ii] Information in this paragraph is based on interviews with TFA and TNTP staff that were conducted for this study.