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Teach For America/Teaching Fellows and Effective Teaching in Secondary Math

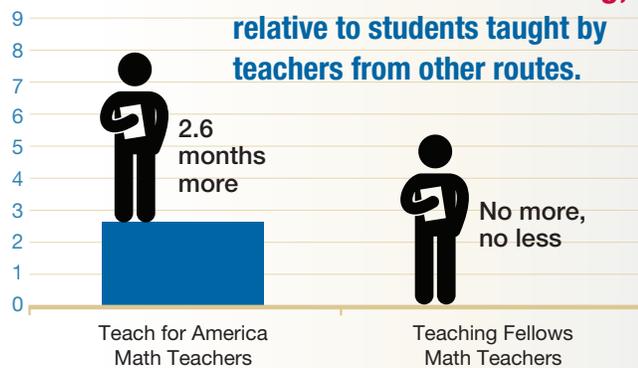
Secondary math teachers from Teach For America are more effective than other math teachers in the same schools; secondary math teachers from Teaching Fellows programs are as effective as, and in some cases more effective than, other math teachers in the same schools.

Background: High-poverty schools across the country struggle to attract effective teachers, particularly in science and math. Teach For America (TFA) and the TNTP Teaching Fellows programs attempt to address this problem by providing an alternative route into the profession for promising candidates without formal 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.

The Issue: Although these programs can help fill teaching shortages, critics contend that TFA and Teaching Fellows teachers 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.

The Study: To help guide policymakers, school districts, and principals concerned about teacher effectiveness in high-needs schools, the U.S. Department of Education's Institute of Education Sciences sponsored a large random assignment study of middle and high school math teachers from TFA and the Teaching Fellows programs. The study was conducted by Mathematica Policy Research.

Students' additional months of learning, relative to students taught by teachers from other routes.



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.

Sources: Estimates based on district administrative records and study-administered Northwest Evaluation Association (NWEA) assessments.

Key Findings: TFA teachers were more effective than the teachers with whom they were compared, regardless of the comparison teachers' route to certification or years of teaching experience. Teaching Fellows were just as effective as, and in certain cases more effective than—the mathematics teachers with whom they were compared in the study schools.

Sample and Methods: 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 North-

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

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 directly 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.

Comparison teachers included those from traditional routes (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 (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). This allowed researchers to examine how TFA and Teaching Fellows teachers compared with the typical mix of teachers in high-needs schools.

Findings in Detail: The study separately compared the effectiveness of teachers from both programs with the effectiveness of other teachers teaching the same math courses in the same schools. To read the full report, click here.

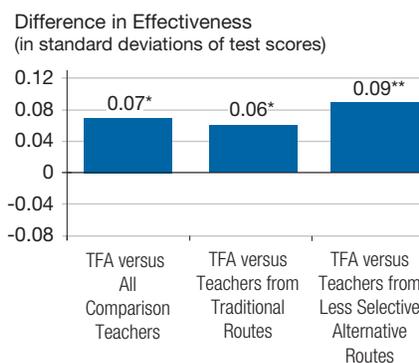
1. TFA Teachers Were More Effective Than Comparison Teachers

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—for comparison, this 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.

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). The study refuted the claim that TFA teachers are less effective because they often leave the profession before gaining valuable experience in the classroom. The TFA teachers in the study sample did have less teaching experience on average than the comparison teachers (2 versus 10 years). However, even 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).

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.

2. Teaching Fellows Were at Least as Effective as, and in Some Cases More Effective than, Comparison Teachers

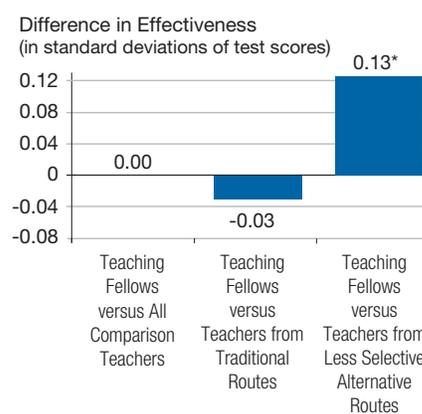
Students of Teaching Fellows and comparison teachers had similar scores on the math tests they took at the end of the school year (Figure 2). However, the study found that effectiveness varied across the different sets of Teaching Fellows and comparison teachers examined. For instance, Teaching Fellows were more effective than teachers from less selective alternative routes to certification, but neither more nor less effective than teachers from traditional routes to certification. Similarly, inexperienced Teaching Fellows (those in their first three years of teaching) were more effective than inexperienced comparison teachers, while there was no difference in effectiveness between Teaching Fellows and comparison teachers with more experience.

Implications: The study suggests that Teach For America and the Teaching Fellows programs offer promising options for high-needs secondary schools that are similar to those in the study and that are facing staffing shortages in math.

Principals of the secondary schools in the study would likely raise student math achievement by hiring a TFA teacher rather than a teacher from a traditional or less selective alternative route to teach

Figure 2.

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



the math classes examined in the study. The study found that novice TFA teachers were more effective at teaching math than experienced non-TFA teachers, which suggests that, even over the longer term, filling a position repeatedly with TFA teachers who would depart after a few years would lead to higher student achievement than filling the same position with a non-TFA teacher who would remain and accumulate teaching experience, provided that the relative effectiveness of teachers from different routes remains constant over time.

The main impact findings for Teaching Fellows suggest that a secondary school in the study would experience neither higher nor lower student math achievement if its principal hired Teaching Fellows math teachers rather than math teachers from traditional or less selective alternative routes. Nevertheless, a principal faced with a more specific choice between a novice Teaching Fellow and a novice teacher from another route or a choice between a Teaching Fellow and a teacher from a less selective alternative route should expect higher student achievement, on average, from hiring the Teaching Fellow. If comparing a Teaching Fellow with another teacher with the same years of experience, on average, the principal would do just as well hiring either teacher.