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.

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-
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

<table>
<thead>
<tr>
<th>Difference in Effectiveness (in standard deviations of test scores)</th>
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<tr>
<td>TFA versus All Comparison Teachers</td>
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<tr>
<td>TFA versus Teachers from Traditional Routes</td>
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<tr>
<td>TFA versus Teachers from Less Selective Alternative Routes</td>
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</tbody>
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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.

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.

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.
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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.

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