

Evaluation of the Teacher Potential Project

Executive Summary

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EXECUTIVE SUMMARY

There is a growing need to help students develop the skills required to become college- and career-ready, as defined by rigorous state standards that have been implemented by a vast majority of states, such as the Common Core State Standards (CCSS). It is critical that teachers have the supports needed to provide effective instruction in these areas; this is especially true for novice teachers, who face the dual challenge of becoming effective teachers and meeting the new standards.

Integrating teacher professional learning with educative curriculum has emerged as a promising way to both build teacher capacity and support student achievement. In particular, this type of approach helps make professional development supports more relevant for teachers to apply in their classrooms because it is aligned to the curriculum, which could potentially address the issues that much of the current professional development does not meet teachers' needs (Bill & Melinda Gates Foundation 2014; Calvert 2016) and may not be associated with improvement in teacher performance (TNTP 2015).

EL Education designed the Teacher Potential Project (TPP) to build the instructional capacity of English language arts (ELA) teachers, and novice ELA teachers in particular. TPP aims to enhance ELA teachers' instructional practices in areas aligned to CCSS and to foster student learning and achievement outcomes. TPP provides an ELA curriculum paired with teacher professional learning supports to help teachers deliver high-quality ELA instruction. The open-source, standards-aligned curriculum for grades 3 through 8 is aligned to CCSS. The teacher professional development learning supports include (1) on-site institutes; (2) on-site and video-based coaching from EL Education coaches, including observations, modeling, lesson studies, and fostering professional learning communities within the school; and (3) access to online supports, including a range of online professional development materials and opportunities to participate in online communities of practice and interactive webinars.

In 2013, EL Education was awarded a five-year, \$11.9 million Investing in Innovation validation grant by the U.S. Department of Education. The purpose of the grant was to help build upon the existing evidence for EL Education's curriculum and professional development model by assessing the effectiveness of TPP. Mathematica, as the third-party evaluator for the grant, designed and conducted the Evaluation of the Teacher Potential Project, which includes an implementation evaluation and a teacher and student impact evaluation. The study of TPP makes several important contributions to the literature evaluating paired curriculum and PD programs: it uses rigorous group designs, evaluates the impact of one and two years of program implementation, and examines broad outcomes on both teacher instructional practice and student ELA achievement. This report describes the study and its findings.

A. Study design and data collection

The evaluation uses a randomized controlled trial (RCT) design to assess the impacts of a single year of TPP implementation on the instructional practice outcomes of teachers and achievement

outcomes of students in the study during that year. We also use this design to assess impacts on student achievement among all schools in the study—those that engaged in one year of TPP implementation and others that engaged in two years of implementation.

The study team recruited 19 relatively high-need school districts across the United States in three cohorts that participated during the 2014–2015, 2015–2016, and 2016–2017 school years. Within each cohort, participating districts selected elementary and middle schools meeting the eligibility criteria to participate in the study, for a total of 79 schools. Schools were eligible if they had at least one novice (defined in this study as those in those with zero to three years of full-time teaching experience) ELA teacher and at least 45 minutes of ELA classes, among other criteria. The study team randomly assigned schools to treatment and control conditions within matched pairs of schools within districts.¹ Treatment schools participated in TPP for one school year, which involved their ELA teachers using TPP’s curriculum and receiving TPP’s professional development (PD) supports, while control schools and their ELA teachers continued to provide their typical ELA curricula and teacher supports. Of the 79 schools, 40 were assigned to the treatment condition and 39 were assigned to the control condition; 70 schools (35 treatment and 35 control) in 18 districts went on to participate in the study. The participating schools had a relatively lower socioeconomic status (71 percent of students were eligible for free or reduced-price lunch), served a largely minority race and ethnicity population of students (46 percent were black non-Hispanic, 21 percent were Hispanic), and had below-average student achievement scores. There were no statistically significant differences in these features between treatment and control schools.

In addition to the RCT, the study team designed a two-year quasi-experimental design (QED) study to assess the impact of extending implementation of TPP to a second year. EL Education recruited 22 of the study schools (10 treatment, 12 control) in five districts in Cohort 3 to participate in a second year of the study in the following 2017–2018 school year. Treatment schools that chose to participate for a second year would continue to implement TPP for a second year, while control schools continued to provide their typical ELA curricula and teacher supports. The schools participating in the two-year QED study had a somewhat lower socioeconomic status (61 percent of students were eligible for free or reduced-price lunch) and had slightly higher baseline ELA achievement than the full sample of schools participating in the RCT. There were no statistically significant differences in these features between treatment and control schools.

The study team collected a variety of data for the evaluation of TPP. We collected rosters of teachers in study schools to identify the population of teachers for the study. Teacher surveys were administered and classroom observations were conducted in fall and spring each year the schools participated to gather information on instructional practices for the teacher impact evaluation. In addition to the teacher surveys, teacher professional development exit surveys and TPP coach surveys were administered to gather information on teachers’ perceptions of the TPP

¹ If a state had two participating districts that each identified one school for inclusion in the study, we randomly assigned one district to the treatment condition and one to the control condition. This occurred in two states, one in Cohort 2 and one in Cohort 3.

institutes and coaches' perceptions of TPP implementation and teacher participation for the implementation evaluation. Student administrative records were collected from districts to obtain information on student ELA test scores before and after the implementation of TPP, and a literacy task was administered to students of Cohort 3 novice teachers in spring 2017, for the student impact evaluation.

B. Key implementation findings

The implementation evaluation is designed to address the research question: “Is there evidence of intervention fidelity?” The implementation evaluation supports replication and scaling of TPP. Its findings indicate the extent to which treatment schools took up and engaged in the services that TPP offered, which can help with the interpretation of the impact study findings.

The implementation evaluation consists of an analysis that identifies the core components of the program, defines the necessary implementation thresholds for these core components, and assesses the extent to which TPP was successfully implemented in treatment schools. These analyses use data collected through coach and teacher reports and classroom observations.

1. The TPP ELA curriculum was implemented in all schools

The TPP CCSS-aligned ELA curriculum was implemented in all treatment study schools that participated in the first and second year of TPP. In their surveys, TPP coaches described successes with the curriculum implementation, which included teachers following the lesson plans included in the curriculum modules. However, teachers also experienced issues with delivering the curriculum modules, such as not teaching all the aspects of a module, as they were learning and acquainting themselves with the curriculum.

2. There was high school-level implementation fidelity of the TPP professional development components in the first and second years of TPP among the novice ELA teachers

For each of the three PD components—institutes, coaching, and online supports—we created teacher-level participation scores based on information provided by coaches' reports and teachers' self-report and using these, we developed school-level fidelity scores to gauge whether each component was implemented with fidelity. If more than 50 percent of the schools had high fidelity with a PD component, that component was deemed as being implemented with fidelity. Separate analyses were performed when only including novice teachers in the sample of teachers at a given school and when including all ELA teachers (novices and experienced), along with assessing implementation among schools receiving one year and two years of TPP.

Overall, the institutes component of TPP's PD was implemented with fidelity with schools in their first and second year of TPP among both novice and all teachers in the study. Teachers and coaches both reported that the institutes were useful in helping teachers to implement the ELA curriculum, although coaches reported that scheduling and teachers' availability for these institutes was a common challenge. The TPP coaching component was also implemented with

fidelity across study years and among novice and all teachers. While TPP coaches felt that teachers were receptive to the feedback and coaching, teacher availability for coaching during the school day sometimes posed a challenge for providing PD support. Finally, while there was implementation fidelity of the online supports in schools in their first year among novice ELA teachers, this was not the case with novice ELA teachers in their second year of TPP nor among all ELA teachers during either year of TPP implementation.

C. Key impact findings

The impact evaluation is designed to address two general research questions about impacts of TPP on teachers and students. First, it answers the question, “What is the impact of TPP on the ELA instructional practices of novice teachers (defined in this study as those in those with zero to three years of full-time teaching experience) and all teachers in upper elementary and middle school grades?” Second, it answers the question, “What is the impact of TPP on the ELA achievement of upper elementary and middle school students in the classrooms of novice and all teachers?”

1. TPP had positive impacts on teacher instructional practices

We examined impacts for teachers who experienced one or two years of TPP supports to understand how these different durations of engagement might change teachers’ instructional practices. We examined these impacts separately for novice ELA teachers as well as all ELA teachers to learn how TPP supports affect not just teachers in general, but also teachers who are relatively new to the profession specifically. In order to define complex teacher practice outcomes in a robust way, we combined information from specific teacher survey and classroom observation items related to instructional practice into 31 constructs within 16 topics related to the areas of general instruction, reading and writing instruction, and classroom management and environment. The general instruction area captures instructional practices that support student learning, which included teachers engaging in the following practices: having well-structured lessons; connecting students’ learning to their prior knowledge, personal lives, or the real world; supporting students’ higher-order thinking and content knowledge development; encouraging students’ participation in class and discussions; and supporting students’ responsibility for their own learning. The reading and writing instruction area captures instructional practices that support students’ engagement with texts and reading and writing practices that are the foci of CCSS, which included integrating academic vocabulary; having students engage in multiple types of writing and write for multiple purposes; having students engage with texts by reading, writing, and/or speaking about texts; using evidence from text to support their ideas; and focusing on developing students’ writing conventions. The classroom management and environment area captures instructional practices that support classroom management and create a positive classroom environment. Impacts were estimated through regression analysis that compared practice outcomes of treatment teachers to those of control teachers, controlling for their students’ reading and math pre-test scores and background characteristics, and allowing for the clustering of teachers within schools.

The study found that one year of TPP had statistically significant, positive impacts on all treatment teachers' overall ELA instructional practices, which included practices in the general instruction, reading and writing, and classroom management and environment areas. There were also significant, positive impacts for particular ELA-specific instructional practices, such as engaging students in reading, writing and/or speaking about texts; and supporting students' use of text evidence, and general instructional practices, which included providing students with connected lessons and supporting their higher order thinking. Among teachers who received a second year of TPP, this study did not find statistically significant impacts, likely due to the small sample size of teachers in the analyses. However, earlier research from this study found statistically significant impacts on the specific instructional practices of more often encouraging students' higher-order thinking, asking students to use evidence from texts, and engaging students in reading, writing, and/or speaking about texts among teachers who received a second year of TPP (Choi et al. 2018).

2. TPP had positive impacts on student ELA achievement

We examined a variety of impacts to understand how exposure to different durations and types of engagement with TPP affects students. Impacts were estimated through regression analysis that compared scores of students of treatment teachers to those of students of control teachers on state-administered ELA assessments that were standardized using means and standard deviations of a national norming population. The analyses controlled for student reading and math pre-test scores; student, teacher, and school background characteristics; year, district, and grade level; and allowing for the clustering of students within schools.

The study found no effects on students' achievement at the end of the first year that their teachers engaged with TPP. However, in the year after teachers engaged in a single year of TPP, there were positive impacts on achievement approaching the 5 percent level of significance for students in their classrooms. This impact had an effect size of 0.06 standard deviations.

There was a positive and significant impact on the achievement of students in the classrooms of teachers in their second year of engagement with TPP. This impact had an effect size of 0.10 standard deviations, which can be interpreted as roughly 1.4 months of typical student improvement, or moving an average student scoring at the 50th percentile to the 54th percentile. These impacts were confined to the students of teachers who engaged with TPP directly and did not appear to affect students of other nonstudy ELA teachers in the study schools.

Among all schools that engaged with TPP—for a single year or for two years of implementation—there was a positive and significant impact on student achievement in the second year, with an effect size of 0.08 standard deviations. There were no significant impacts on the achievement of students in the classrooms of novice teachers during their first or second year of engagement with TPP.

The study also estimated impacts on students' scores on an opinion or argument writing task at the end of their teachers' first year of engagement with TPP. Impacts were estimated for a subset of Cohort 3 novice ELA teachers through regression analysis that compared average classroom

scores among treatment teachers to those among control teachers, controlling for their students' characteristics and allowing for the clustering of teachers within schools. The study found no impacts on students' writing conventions, writing quality, or overall writing scores, although readers should interpret this finding with caution due to the small sample sizes and the low power of this analysis.

D. Potential explanations for findings

The patterns of findings over the first and second years of the study show that, while impacts on teacher practices appeared during the first year of engagement with TPP, impacts on students did not appear until after the first year. There are several possible explanations for the lag in impacts on student achievement. It is possible that teachers needed longer cumulative or sustained exposure to PD to impact students; teachers needed time to fully digest and implement what they learned; the changes in teachers' instructional practices during the first year were not large enough to affect student achievement that year; teachers did not experience impacts on their instructional practices early enough in the school year to affect student achievement; or that teacher survey and observation instruments did not capture some aspects of practice that are important for student achievement.

Another notable pattern of findings was the lack of impacts on novice teachers' students, despite impacts on these teachers' instructional practices. This pattern is consistent with an explanation that it takes even more time for professional learning supports to affect novice teachers' students than to affect more experienced teachers' students.

These potential explanations for some of the study findings are no more than hypotheses. The study was not designed to identify the mechanisms by which TPP achieved impacts on teachers and students. Future work to investigate these hypotheses could advance our understanding further.

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