

## **Preparing Teachers in Denver: Examining the Impact of Denver Teacher Residency on Teacher Retention, Teacher Effectiveness, and Student Achievement**

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Teacher residencies have grown in popularity over the past decade as policymakers and district leaders have sought strategies to attract and retain high-quality teachers to hard-to-serve schools. There are now more than 50 formal teacher residency programs across the nation (National Center for Teacher Residencies, 2018). In addition, some university-based teacher preparation programs have begun to borrow from the residency model by adding extended clinical training beyond the student teaching experience in the hope of training teachers who will be prepared to teach and remain in hard-to-serve schools for longer periods of time (Iasevoli, 2016).

Residency programs serve as a middle ground between traditional, university-based programs and alternative-certification programs. Residencies provide qualified individuals with the opportunity to earn their teaching license and a Master's degree in one year, while simultaneously shadowing and learning from an experienced classroom teacher in a hard-to-serve school in the district where they intend to teach. Thus, teacher residencies couple selection with training to produce a high-quality teacher who is prepared to teach and remain in the partnering district.

There has been little empirical research to test the effectiveness of the residency model. Papay, West, Fullerton, and Kane (2012) examined the impact of the Boston Teacher Residency, through a quasi-experimental design. The authors found graduates of the residency program are no more effective at raising student standardized test scores than other new teachers in reading and are less effective in math during their first years on the job. However, they found the effectiveness of residency graduates in math improves rapidly over time, such that by their 4th and 5th years they outperform veteran teachers. Nevertheless, the authors conclude that the program's overall effect through retention and effectiveness is likely to improve student achievement in the district only modestly over time.

Although several years have passed since the publication of this study, there has not been a similar effort to estimate the impact of a teacher residency program over multiple years. This paper seeks to do so and to contribute to the limited research on the impact of teacher residencies. We examine the impact of one of the first formal teacher residency programs established in the United States: the Denver Teacher Residency Program (DTR). DTR is a partnership between Denver Public Schools and the University of Denver, with the American Institutes for Research (AIR) serving as a long-term research partner. AIR is in the final year of an eight-year research partnership and this paper presents findings from the full study.

The study is guided by the following three questions:

1. To what extent have DTR graduate teachers been retained at a rate higher than other new teachers?

2. To what extent do DTR graduate teachers and mentors outperform other teachers on their annual teaching effectiveness evaluations?
3. To what extent do the students of DTR graduate teachers outperform students of other novice teachers?

Findings to date suggest DTR graduates are retained at higher rates than other teachers who were new to DPS and were trained through a different preparation program. Approximately 91 percent of DTR graduates from the first five cohorts of graduates returned for a second year of teaching (as compared to 75 percent of the comparison group), and 86 percent returned for a third year (versus 60 percent). Further, a series of linear and logistic models confirm these findings, controlling for teacher- and school-level covariates.

DTR graduates received higher scores on the district's annual evaluation of teaching, as compared to other new teachers in their same schools. However, this difference was only statistically significant in the first year, after adding school-level fixed effects. DTR mentor teachers received higher scores than similar teachers within their same schools, but a set of differences-in-differences analyses could not attribute this difference to the experience of serving as a DTR mentor.

The impact of DTR for students has been less clear, with negative results for mathematics and null results for reading. Following the approach employed by Papay et al. (2012), we used propensity score matching to create a comparison group of students who were not taught by DTR graduates in 2014-15, but had similar demographics and levels of prior achievement to students who were taught by DTR graduates. We then employed a value-added model to examine differences in mathematics and reading on PARCC. This paper will present the updated achievement analyses through the 2017-18 school year. In an effort to address the need education practitioners have for effectiveness research to be more responsive to provide more detailed information about effects for subgroups, achievement analyses will also be disaggregated by student and teacher characteristics.

This paper addresses many of the tensions identified under the “tensions and tradeoffs” theme for the 2019 SREE conference. First, the paper presents the findings of this long-term, “slow” study, explicating the ways in which these results shifted over time. Second, we argue that some components of the DTR program are generalizable, while others are specific to Denver. We aim to highlight findings that can contribute broadly to the thin research base of knowledge about teacher residency programs. Finally, this paper contributes to a topic that is not well studied but that is nonetheless increasingly implemented in both districts and charter management organizations. We aim for this paper to be used – at least in part – to support practitioners as they consider implementing or refining teacher residencies in their local context.

## References

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