

## Innovations in University-Based Teacher Preparation: Comparing the ‘Grow Your Own’ Alternative to the Traditional Program at Texas Tech

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### Introduction

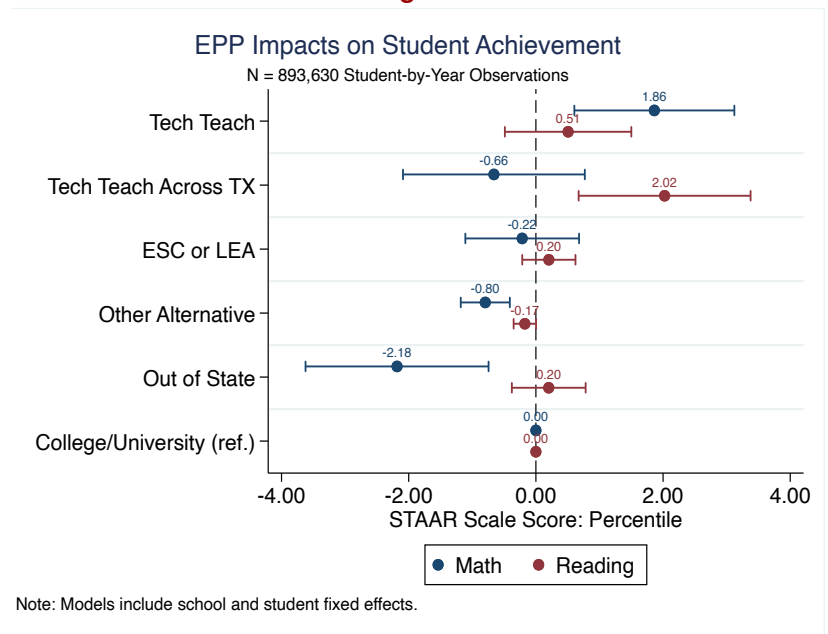
Teacher education pathways across states in the U.S. continue to diversify. In the last decade, there has been a steady increase in the proportion of teachers being prepared via alternative certification programs (ACP). ACPs allow individuals who did not complete a traditional, university-based teacher preparation program to fast-track the certification process, often relying on intensive classroom training and expedited coursework to prepare new teachers<sup>1</sup>. In Texas, some teachers in ACPs complete months of unpaid clinical student teaching under the supervision of full-time teachers, but most apply for an internship credential from the Texas Education Agency (TEA) and immediately begin one year of paid teaching full-time.

One development of interest is the co-existence of traditional and alternative certification programs housed at the same college or university. Nationwide, universities are increasingly adopting additional models of teacher education that are more akin to alternative certification models that have historically been housed outside of universities by both for-profit and non-profit entities. At Texas Tech University, the College of Education houses two teacher preparation programs: Tech Teach and Tech Teach Across Texas. Tech Teach is a traditional, university-based teacher preparation program with a yearlong student teacher residency. Tech Teach Across Texas, while also having a yearlong student teacher residence, is an ACP that allows students to complete two years at a community college before transferring to Texas Tech University for a final year. Tech Teach is offered at Texas Tech University’s Lubbock campus, while Tech Teach Across Texas offers classes online for students throughout Texas.

### KEY FINDINGS

1. Students of teachers prepared via the traditional, Tech Teach program exhibited stronger gains in math.
2. Students of teachers prepared via the alternative, Tech Teacher Across Texas program exhibited stronger gains in reading.
3. Tech Teach and Tech Teach Across Texas teachers’ academic effectiveness grew more quickly compared to teachers from other preparation pathways.
4. Nonwhite students, students with disabilities, English learners, and students eligible for free or reduced-priced lunch of teachers prepared via Tech Teach and Tech Teach Across Texas exhibited strong math gains compared to students with the same demographics of other teachers.

Figure 1



## What did we do?

This evaluation compared the effects of both Tech Teach and Tech Teach Across Texas programs on student achievement in grades 4-7. We focus on the N=827,967 students of three cohorts of teachers in their first three years of teaching. We examine students of teachers who became full-time teachers in 2016-17, 2017-18, and 2018-19. The characteristics of interest in this evaluation are students' standardized testing outcomes in reading and math, teachers' preparation pathway, and students' and teachers' background characteristics.

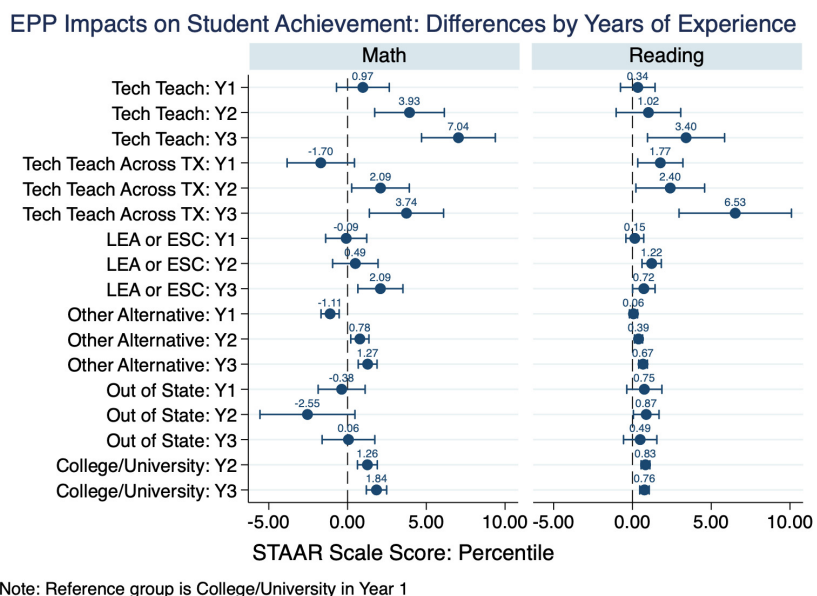
We categorized teachers' preparation pathway into six groups, two of which pertain specifically to this program evaluation. Tech Teach and Tech Teach Across Texas refer to the traditional, university-based and the alternative, Grow Your Own programs developed by Texas Tech University. We compare these teachers to those prepared via four other pathways: 1) College and University-based traditional or alternative certification programs, 2) Out-of-State teachers, 3) in-state, non-university alternative certification programs, and 4) teachers certified through other Grow Your Own initiatives via Education Service Centers (ESC) or Local Education Agencies (LEA). Some prior research has examined heterogeneity within these broad pathways but suggests little variation in student outcomes by pathway<sup>2</sup>, and these categories are consistent with TEA's classifications of educator preparation programs<sup>3</sup>. Our key identification strategy exploits variation in achievement outcomes based on students having teachers prepared through different pathways from grades 3-7. Specifically, we employed a student and school-by-year fixed effect model. The use of student and school-by-year fixed effects are common in prior research that examines teacher effectiveness, as this facilitates a value-added interpretation of the results by accounting for pre-existing student and school characteristics<sup>4</sup>.

## What did we find?

Figure 1 displays the main findings. The reference group, shown as having a coefficient of zero, are students with teachers prepared at non-TTU colleges and universities. As seen from Figure 1, students with Tech Teach teachers exhibited stronger math performance compared students with teachers from the other pathways. Students with teachers prepared in other alternative certification programs or with teachers prepared out of state exhibited poorer math performance compared to students with teachers prepared in other pathways. Regarding reading, students taught by teachers from Tech Teach Across Texas had stronger reading scores compared to other students, and this was the only statistically significant difference in reading achievement by preparation pathway.

Figure 2 shows our moderation results from our analysis of achievement differences by preparation pathway and year of experience. We expect to see larger achievement results for all teachers in years 2 and 3. This is largely the case with a couple of exceptions. Teachers from Tech Teach and Tech Teach Across Texas appear to exhibit larger differences in their students' achievement compared to other pathways in years 2 and 3, indicating that these teachers are not only becoming more effective over time but at a much quicker rate compared to teachers from other pathways. We also examined differences by student subgroup, including nonwhite students, students with disabilities, English learners, and students eligible for free or reduced-priced lunch. In both math and reading, Tech Teach and Tech Teach Across Texas teachers' students tended to outperform other students in each subgroup.

Figure 2



## Acknowledgements

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## Research Team Bio

**Jessica J. Gottlieb, Ph.D.**, is an assistant professor in the College of Education and associate director of the Center for Research in Leadership at Texas Tech University. Her work focuses on science, technology, engineering and mathematics (STEM) education policy, teacher education, and policy design, with an eye toward understanding how policy can expand access to high quality learning experiences for all students.

**J. Jacob Kirksey, Ph.D.**, is an assistant professor in the College of Education and associate director of the Center for Research in Leadership at Texas Tech University. His research is broadly focused on issues at the nexus of education and other areas of public policy, which includes student absenteeism and truancy, inclusion and special education, immigration and education, and the teacher workforce.

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## About CIRCLE

The Center for Innovative Research in Change, Leadership, and Education (CIRCLE) provides empirical research, training, and evaluation in collaboration with community partners, using interdisciplinary approaches, on issues that influence educational experiences and outcomes of students, leadership, and policy throughout the PK-20 system. Located in the College of Education at Texas Tech University, CIRCLE research and evaluation activities focus on three core areas: PK-12 Education, Higher Education, and Research-to-Practice.

## References

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<sup>2</sup>Lincove, J. A., Osborne, C., Mills, N., & Bellows, L. (2015). Teacher preparation for profit or prestige: Analysis of a diverse market for teacher preparation. *Journal of Teacher Education*, 66(5), 415-434.

<sup>3</sup>Texas Education Agency. (n.d.). Newly Certified Educators. Texas Education Agency. <https://tea4avcastro.tea.state.tx.us/ELQ/teacherproduction/newlycertifiededucators.html>

<sup>4</sup>Gershenson, S., Hart, C., Hyman, J., Lindsay, C. A., & Papageorge, N. W. (2022). The long-run impacts of same-race teachers. *American Economic Journal: Economic Policy*, 14(4), 300-342.

