# Beyond the Tipping Point Study

by Michael Marder
November 2025

## Executive Summary

The teacher preparation landscape in Texas has been rapidly changing, with far-reaching implications for Texas students. The COVID-19 pandemic caused an increase in the rate of retirement and resignation of K-12 teachers and administrators. This caused a dramatic rise in the fraction of K-12 teachers with no certificate, which was permitted because most districts had declared themselves Districts of Innovation. In this project I tracked the rise of uncertified teachers and found the impact of this phenomenon on student performance and teacher effectiveness.

During the course of this study, the number of uncertified teachers began to soar. In 2023-24 and 2024-25 more than half of Texas' new teachers entered without certification or preparation. Uncertified teachers were most common in subject areas with large teacher shortages such as secondary STEM, and in rural areas. This situation created a sense of urgency around finding the potential effects of such a large shift in teacher preparation on Texas students.

**Student Performance and Teacher Effectiveness**
I examined the consequences for student learning of having an uncertified teacher as compared with a certified teacher in a non-charter district. Student learning was significantly lower in almost every subject and at every grade level. The largest effects were in high school, where it was estimated that students with uncertified teachers in social studies and math would gain four months less learning in a year than those with certified teachers, and in high school English the difference was estimated to be six months of learning.

**Teacher Retention**
Uncertified teachers were much less likely to stay in teaching than certified teachers. More than 30% of them left just after the first year, while for university-certified teachers the corresponding figure was 5%. By the five-year mark only around 40% of uncertified teachers were left.

**Summary**
Teacher certification matters. When teachers enter the classroom without preparation, most will leave before they have completed five years and their students learn less than if they had the chance to practice their craft before assuming full responsibility of classrooms.

## What Was Studied

Texas is different from all other states in how it prepares teachers. Starting in 2002, Texas allowed for-profit entities to prepare teachers, and by 2015 for-profit companies, mainly preparing teachers online, were the dominant source of new teachers (Figure 1). In this year Texas allowed school districts to declare themselves Districts of Innovation and opt out of state regulations. This included the possibility of opting out of the requirement that teachers be certified. Hiring of uncertified teachers increased slowly until in 2021-22 in the wake of the pandemic it exploded, and by 2022-2023 more than half the new teachers in Texas were uncertified. This project made it possible to monitor this

development as it unfolded, obtain information on the types of schools and subject areas where uncertified teachers were dominating, and to assess consequences for students.

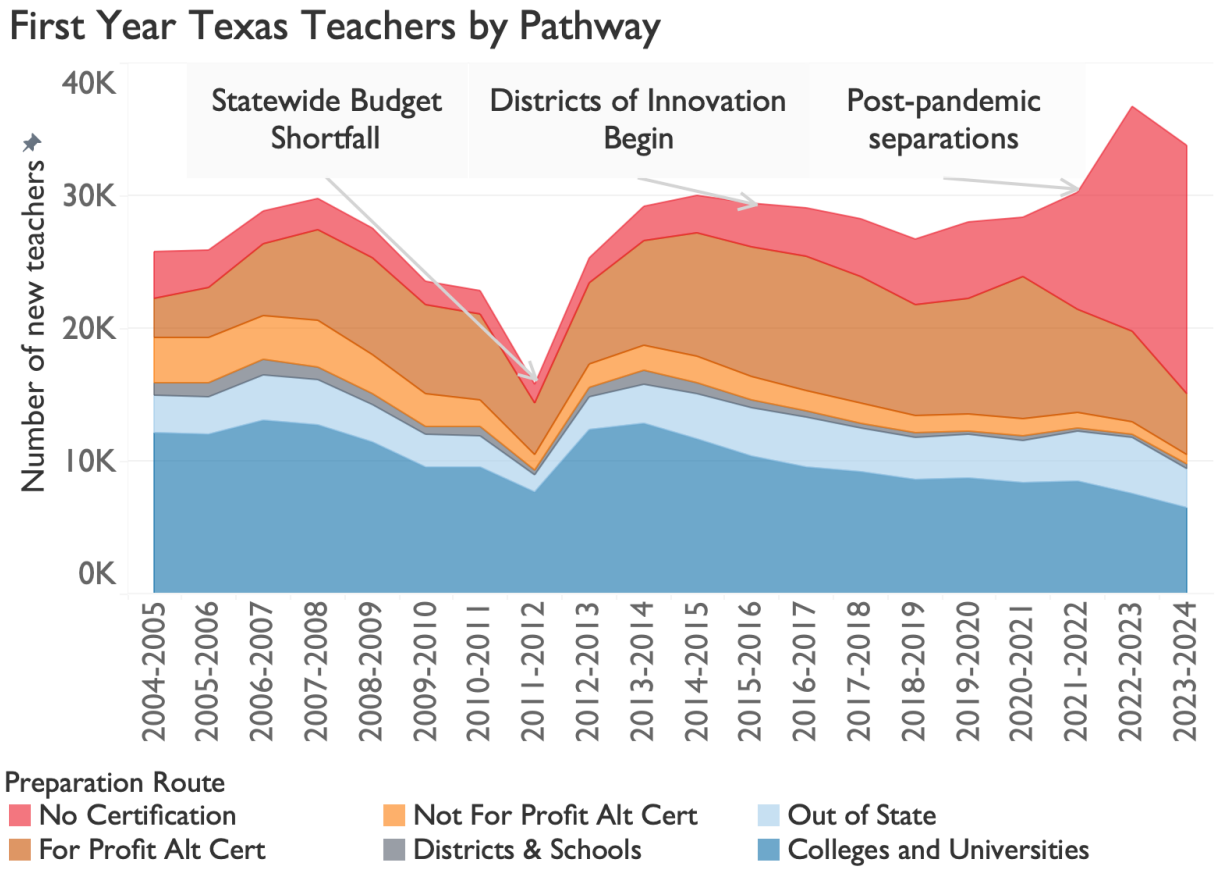


*Figure 1: A graphical history of teacher pathways in Texas*

## Purpose of the Study and Research Questions

## How Data Were Analyzed

### Student Performance and Teacher Effectiveness

I used value-added models to compare certified and uncertified teachers to examine student learning outcomes. The sample size was between 6,000 and 30,000 teachers per grade level and subject area over the period from 2012 to 2019. I focused on the ways policies related to teacher preparation impact student achievement. The models are hierarchical linear models, and I employed lmer in R. For subjects where a given student was tested in two consecutive years, I modeled the student score in the second year as a cubic polynomial in the student's score the preceding year. The models included campus, teacher, and class as random effects, and a range of demographic variables as fixed effects. These included both individual student demographics and classroom averages of demographic variables. To examine the effect of teacher preparation pathways, I included flags for teacher preparation programs of different types, including the possibility that the teacher had never received a certificate.

### Teacher Retention

I followed cohorts of teachers who entered teaching from 2010 until 2023. There were over 200,000 teachers from colleges and universities, 180,000 from alternative certification, and 86,000 with emergency certification or no

certification. I used presence in teaching in 2023 as an indicator of whether they were still teaching or had left and found cumulative years in the classroom for teachers still teaching. I found cumulative years in teaching as a function of the pathway into teaching.

## What Was Discovered

### Student Performance and Teacher Effectiveness Measures:

**Key Findings of Student Performance and Teacher Effectiveness:**

- In every tested subject, in non-charter districts, students do best if they had university-certified teachers and worst if they had uncertified teachers
- Every year, from fourth through eighth grade, students gain the equivalent of one to two extra months of school time spent on mathematics if their teachers came from university-based programs.
- For low-income students, having a teacher from a university program offsets up to half the disadvantages that come from living in poverty.

**Key Findings of Teacher Retention:**

- University-certified teachers were retained at a 77% rate during a five-year period, while only 40% of uncertified teachers remained in the field.
- More than 30% of uncertified teachers left after the first year, averaging over all years, versus 5% of university-certified teachers. In the last five years, around 25% of uncertified teachers left after the first year.

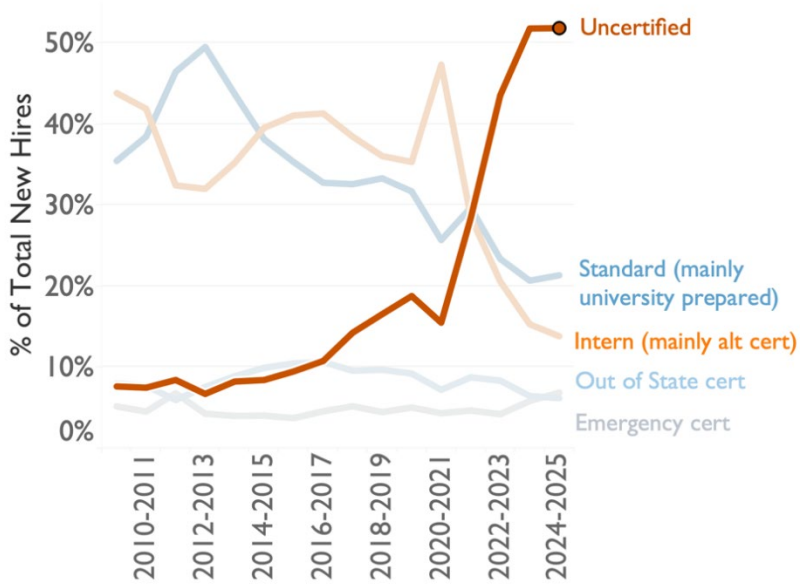


*Figure 2: The rise of uncertified teachers in Texas*

## Results

**Key Findings of Student Performance and Teacher Effectiveness**

As shown in Figure 2, uncertified teachers rose to become by far the dominant source of new teachers in Texas in 2023-2024 and 2024-2025. Figure 3 shows that students in traditional school districts learn more when their teachers are certified than when their teachers are uncertified. The gains in elementary school are modest in size, around 1.5 months of learning per year or less and not always statistically significant. The gains in 8th grade are above 3 months of learning, except for English Language Arts. In high school the largest gain from certified teachers is in English Language Arts, with differences above 3 months of learning in math and social studies as well. The sample size of

uncertified teachers is not large because they have been only a few percent of all teachers until the last two years and this limits the ability to draw robust conclusions.

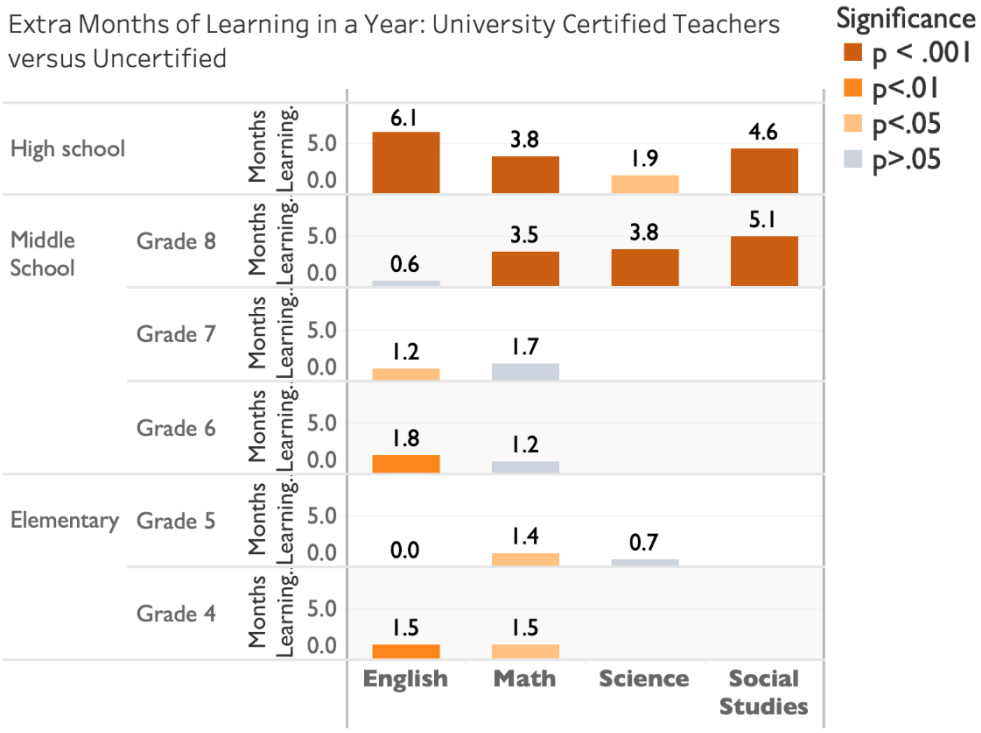


*Figure 3: Student learning gains when their teacher was university certified as opposed to uncertified. The units are months of learning, which are units where a quarter of a standard deviation corresponds to nine months of learning. The model is a hierarchical linear model of teacher value added that controls for student and school characteristics. Technical methods described by Rhodes and Marder (2024)*[1]

**Key Findings in Teacher Retentions**

Figure 4 shows that retention in teaching depends upon pathway into teaching. University-prepared teachers are the most likely to stay. Around 4% leave per year through the first five years. Alternative certification is next, with about 70% remaining at the five-year mark. Uncertified teachers leave at the highest rate; around 30% in the first year for the period used for this figure (2010-2023). In the last two or three years, uncertified teachers have left at a slightly slower rate, 25% in the first year, but this is still many times greater than the departure rate of certified teachers. The departure of so many new teachers creates a burden for schools to hire replacements and is disruptive for student learning if the teachers leave in the middle of the year. Value-added models in Figure 3 do not properly capture this disruption because the value-added models have only been applied to teachers who are present all year.

[1] Annelies Rhodes and Michael Marder, "Measuring the Value of Teachers from Traditional Certification Pathways in Texas: A Comprehensive Study," *Education Policy Analysis Archives* 32 (September 2024), https://doi.org/10.14507/epaa.32.8556.

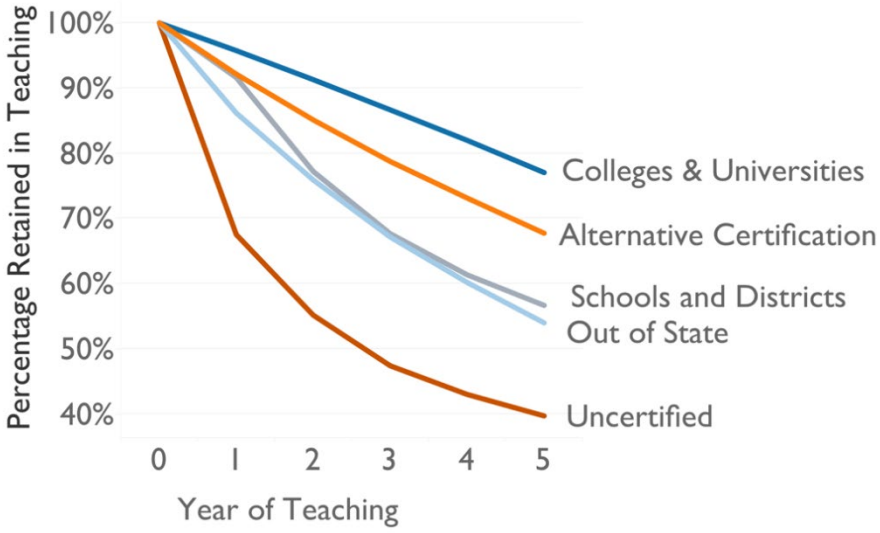


*Figure 4: Percentage of teachers retained in teaching as a function of years in service and pathway into teaching*

## Discussion/Policy Recommendations

Examination of the key findings led in the fall of 2024 to the following recommendations[2]:

1. Direct resources to teacher candidates in high-quality educator preparation programs.
    a. Increase scholarships and loan forgiveness support.
    b. Waive tuition and fees for students during student teaching semester, and refine/reform certification exam costs.
    c. Create new pathways into teaching, exploring all available mechanisms permitted by the state.
2. Invest in high-performing educator preparation pathways.
    a. Incentivize all high-quality educator pathways with evidence of effectiveness for both traditional/university, alternative and residency pathways.
    b. Streamline the certification process to encourage innovation and support more operational efficiencies for the highest quality programs.
3. Support and retain high-quality teachers.
    a. Target Teacher Incentive Allotment and other compensation resources to teachers certified through the highest quality pathways.
    b. Strengthen capacity of school staff and leadership to create positive working conditions, implement rigorous early career mentoring programs, and deliver ongoing support to teachers.

Many of these recommendations were implemented in HB2 of 2025. In particular the Teacher Retention Allotment is providing across-the-board raises at 3 and 5 years of experience. The Teacher Incentive Allotment has been enhanced and provides merit-based raises to retain teachers. The PREP allotment provides funds to preservice teachers during student teaching and to educator preparation programs once their graduates complete the first year of teaching. Districts are directed to decrease hiring of uncertified teachers. The legislature devoted $8.4 billion over the 2025-2026 biennium for these measures.

Thus key recommendations that have not yet been implemented or deserve continued attention are

[2] M. Marder, L. Torres & C Martinez., "Beyond the Tipping Point: The Rise of the Uncertified Teachers in Texas: Report and Recommendations from the University of Texas at Austin.," September 9, 2024, https://bit.ly/uncert-teachers-report.

1b. **Waive tuition and fees for students during student teaching semester**

This is an action that universities could take to promote teaching among their students and to relieve pressure during the most demanding period of teacher preparation with or without assistance from the PREP allotment.

2a. **Incentivize all high-quality educator pathways with evidence of effectiveness for both traditional/university, alternative and residency pathways.**

The state is emphasizing residency pathways, and support for standard pathways, although it is funded in HB2, is much less and delayed for a year while guidance is being prepared.

2b. **Streamline the certification process to encourage innovation and support more operational efficiencies for the highest quality programs.**

The certification process is becoming more onerous year by year, despite severe teacher shortages and the challenges created by large-scale employment of uncertified teachers.