

The Promise of P-TECH: Examining Impacts of a CTE-Focused Dual Credit School Model

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Background

The good news? Texas is growing. In 2022, Texas joined California to be only the second U.S. state with a population of over 30 million people (Wilder, 2023). Texas is also rapidly growing in racial and ethnic diversity. “Texans of color” accounted for 95% of the state’s population growth from 2010 to 2020 (Ura et al., 2021).

The bad news? Texas is growing. More specifically, the Texas labor market is growing (Dey, 2022). The state created more than 575,000 jobs since from March 2022 to March 2023 (Texas Workforce Commission, 2023). This growth exceeded national trends, and the growth was diversified, leading the way in all 11 major industries. (Texas Workforce Commission, 2023) A growing majority of those new jobs require a postsecondary credential. This trend is expected to continue with more than 70% of job opportunities in 2036 projected to require credentials beyond a high school diploma (Texas 2036 & George W. Bush Institute, 2023). While the state is rapidly growing, a significant proportion of current and incoming Texans do not hold the necessary qualifications to fill these new jobs (Boston Consulting Group, 2021; Texas 2036 & George W. Bush Institute, 2023). This leaves an alarming number of Texans with no or low-paying jobs,

70%

70% of jobs in 2036 projected to require postsecondary credentials

serious unmet needs like lack of access to health insurance, and an uphill battle ahead of them to lift their families to a more prosperous future.

One strategy to improve career readiness is the creation of Pathways in Technology Early College High Schools (P-TECH). Texas P-TECHs are four-to-six-year programs specifically designed to connect a high school with its regional workforce needs, to embed workplace-centric educational experiences, and provide traditionally disadvantaged students with pathways to obtaining postsecondary and/or industry-recognized credentials for free (Muhammad-Rodgers, 2020).

KEY FINDINGS

- P-TECH increased the number of dual credit hours earned
- P-TECH increased students graduating high school with postsecondary credentials
- P-TECH grads were more likely to earn degrees
- P-TECH grads were more likely to find jobs in high-needs sectors



Our Research

We studied the effect of implementing the P-TECH model on a series of student outcomes using the Synthetic Control Method. For each model displayed in Figures 1 and 2, we compared the effect of the P-TECH model against estimates of a synthetically created comparison school that represents Texas P-TECH schools had they not implemented the model. Figure 1 describes the effects on outcomes prior to high school graduation, and Figure 2 looks at postgraduation outcomes.

Figure 1: P-TECH Effects on Pre-Graduation Outcomes

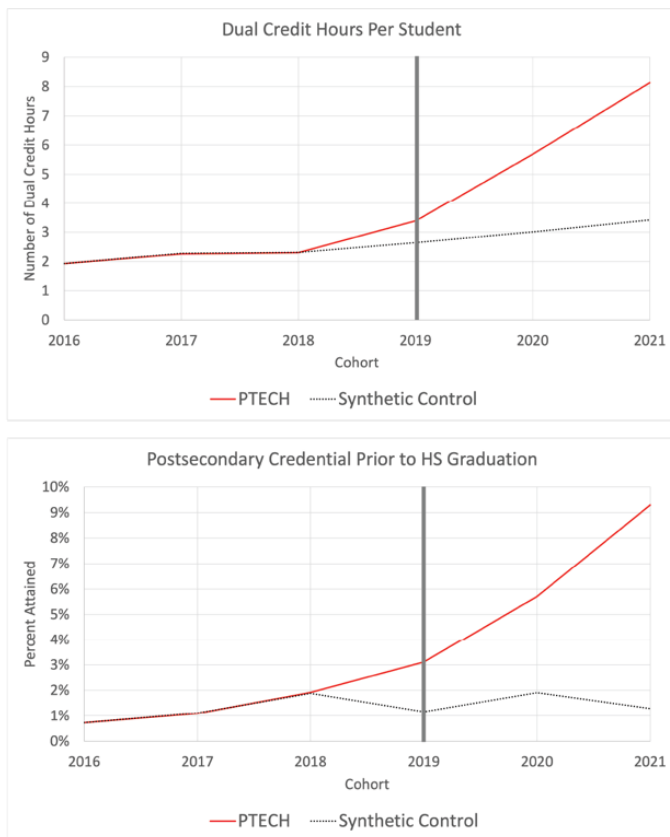
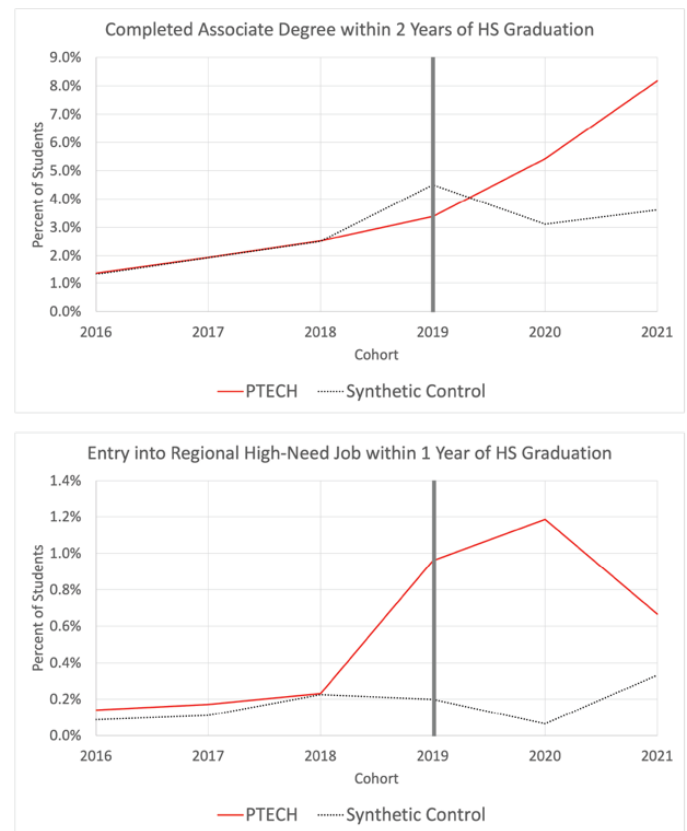


Figure 2: P-TECH Effects on Postsecondary Outcomes



Our study revealed two key outcomes prior to high school graduation (Fig. 1): (1) implementing the P-TECH model increased the number of students graduating high school with a postsecondary credential by more than eight percentage points, and (2) P-TECH graduates left high school with an average of approximately 4.7 more (free) dual credits. When examining postsecondary outcomes, P-TECH schools increased (Fig. 2): (1) 2-year associate degree attainment rates by more than 4.5 percentage points and (2) the percentage of graduates entering employment in regionally identified high-need workforce sectors by as much as 1.12 percentage points.

Conclusion

While not at the scale needed to singlehanded address the shortfalls in preparing qualified, credentialed Texas employees, these models offer hope that P-TECH is a valuable contributor to the bigger picture effort to better support Texans in obtaining the experiences and training needed for the jobs of tomorrow. Texas needs middle-skilled workers (Burrowes et al., 2014; Texas 2036, 2022; Texas 2036 & George W. Bush Institute, 2023), and it needs those workers to be trained and credentialed (Boston Consulting Group, 2021; Carnevale et al., 2010). This study has demonstrated the P-TECH can be a valuable institutional response to these demands in Texas.

As noted in Building a Talent Strong Texas, getting Texans to the point of an initial credential can make a meaningful impact on their abilities to fill Texas jobs and improve their future earning potential. The final model gives a very early piece of encouragement for P-TECH leaders and policymakers that these schools are positively contributing to meeting Texas workforce demands. There are a relatively small—but growing—number of P-TECH students who are almost immediately going to work where the State has identified its highest needs. This is evidence to support claims that P-TECH designation policy is aligned with the broader state-level policy priorities.

Policy Recommendations

- This study examined P-TECH as a state-level policy intervention, but Texas is a big, diverse state. As the model matures, it will also be important to examine student participation and outcomes at more regional levels.
- With some concerns about the potential for tracking talented students to inferior longer-term academic outcomes in the interest of increasing shorter-term outcomes incentivized in accountability policy, it may be important that the State take action to offer students high quality alternatives to P-TECH campuses in some cases.
- The emerging evidence for the positive effects of P-TECH schools under the current design will benefit from more time to evaluate whether gains continue or accelerate. P-TECH clearly has promise for serving many of the state's most disadvantaged students and strengthening the Texas economy along the way.

P-TECH students are going to work in State identified high needs areas

Research Team Biographies

Levi Johnson, Ph.D., is the director of the Center for Transformative Undergraduate Experiences (TrUE) at Texas Tech University. His research focuses on public policy issues at the intersections of Texas secondary and higher education such as evaluations state-administered dual credit and dual enrollment interventions.

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J. Jacob Kirksey, Ph.D., is an assistant professor in the College of Education and associate director of K-12 research at 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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