



Optimizing Teacher Residencies in Texas

Solutions to Expand Access to Secondary STEM and Other Disciplinary Major Candidates

2025 Report from the Secondary STEM Teaching Residency Advisory Group



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Citation

Hughes, K., & Culpepper, C. (2025). *Optimizing teacher residencies in Texas: Solutions to expand access for secondary STEM and other disciplinary major candidates*. Report from the secondary STEM teaching residency advisory group. The UTeach Institute. <https://institute.uteach.utexas.edu/residency>

Acknowledgments

This work was supported, in whole or in part, by the Gates Foundation grant INV-060024. The conclusions and opinions expressed in this work are those of the authors alone and shall not be attributed to the Foundation.

Secondary STEM Teaching Residency Advisory Group

We appreciate the contributions of the members of the Secondary STEM Teaching Residency Advisory Group who were convened during the 2024–2025 academic year to provide input and expertise in considering solutions to optimize residency pathways to prepare more secondary STEM teacher candidates.

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I. EXECUTIVE SUMMARY

Texas faces persistent shortages of certified secondary teachers, most acutely in mathematics, science, and computer science. Recently, Texas became the first state in the nation to create an “enhanced residency” teaching certificate to encourage expansion of residency programs. Teacher residencies are a promising response because they provide extended, coached practice integrated with coursework. Yet most current residency designs were built for education majors and often do not fit the schedules, advising needs, and content expectations of undergraduates pursuing disciplinary degrees. This matters because undergraduate disciplinary majors represent the largest pool from which to recruit future secondary teachers.

To address this gap, the UTeach Institute, with support from the Gates Foundation, led a two-year effort to reimagine residencies to improve access to these pathways for undergraduate disciplinary majors. During the first phase of the project, we worked with educator preparation programs (EPPs) across the state to understand what they valued about residency approaches and to document the barriers they faced expanding residency pathways—financing, governance, mentor capacity in secondary fields, and rigid clock-hour rules. In the second phase, we moved from problem identification to solution design. The advisory group, composed of practitioner experts and leaders from higher education, K–12 districts, and state and national stakeholders, reviewed Texas teacher production data, studied a secondary STEM-focused residency case, and reviewed the literature on residency policy, design, outcomes, and implementation. From this work we developed a set of actionable recommendations for preparation programs and policymakers.

FINDINGS

The advisory group of practitioner experts organized its final analysis around four categories of key elements that consistently distinguish high-quality residencies and are particularly relevant in the Texas context: partnerships and shared governance, co-teaching and mentorship, candidate recruitment and retention, and strategic staffing.

The literature points to a number of effective strategies for strengthening teacher preparation through residency and other clinically intensive pathways. First, partnerships and shared governance work best when they are mission-driven and student-centered, rather than transactional. Programs and districts benefit from internal alignment between university disciplinary departments and colleges of education before they formalize external agreements, followed by clear MOUs, joint data reviews, and, where feasible, regional governance to reduce duplication. Second, co-teaching and mentorship are most effective when mentors and residents are trained in structured models and when responsibilities evolve over time. Triad arrangements that include a faculty supervisor can be especially powerful because they ensure content-specific feedback and support inquiry-based pedagogy. Third, recruitment and retention of candidates from all backgrounds is improved when financial barriers are addressed, when culturally responsive mentoring and affinity supports are available, and when disciplinary faculty help reframe teaching as a respected career. Fourth, strategic staffing can create mutual benefit. Residents contribute tutoring, small-group instruction, or supervised substituting that advances program competencies while addressing district needs, provided there is strong supervision and alignment to learning goals.

A further analysis of the research-based benefits and best practices of residency program elements and structures against the unique challenges and constraints presented by undergraduate disciplinary majors seeking secondary teacher certification led to the following recommendations for reimagining residency pathways to improve access for more of these preservice candidates.

RECOMMENDATIONS

Two initial recommendations address 1) providing sufficient funding to make residency pathways a viable option for more preservice candidates and 2) revisiting specific requirements for required clinical hours to allow more flexibility, enabling more undergraduate majors to complete disciplinary coursework and residency requirements without adding time or cost to their degree. At the same time that educator preparation programs and policymakers consider greater flexibility for expanding access to more candidates, we recommend that high-quality, proven preservice preparation practices and structures are maintained. These include aligned and expanded governance, modernized clinical experiences and expectations, investment in mentors and residents, and use of strategic staffing to meet workforce needs while strengthening teacher development.

At the educator preparation program level, institutions should:

- create cross-college steering groups to co-design residency models that meet the unique needs of disciplinary majors.
- embed structured co-teaching or triad models as default practice.
- map clinical competencies to a range of high-quality activities that include co-teaching, approved simulation, and strategic staffing.
- re-sequence coursework so that residency participation does not extend time required to earn a degree.

- recruit and compensate disciplinary faculty for defined roles in supervision and governance.
- concentrate advising and mentoring resources in high-need certification areas where scheduling is more problematic.

At the state level, policy refinements and targeted funding can create the conditions for scale. Priority actions include:

- revisiting rigid clock-hour requirements and introducing flexibility so that disciplinary majors are able to complete field teaching requirements alongside upper-division disciplinary coursework. The state should consider pre-residency modules as creditable residency hours when they are supervised, assessed, and aligned to program competencies.
- recognition in Texas education rules of co-teaching, simulation, and clearly defined strategic staffing as creditable residency experiences with appropriate guardrails.
- statewide discipline-specific mentor training with stipends tied to coaching responsibilities.
- classification of clinical residents as full-time for financial aid.
- supplemental funding for advising and mentoring in shortage areas.

Texas has a timely opportunity to align the promise of residencies with the realities of secondary disciplinary preparation. The evidence and practitioner insights assembled here point to a pragmatic path. Programs can strengthen residency pathways by prioritizing proven practices and customizing program structures to address the unique needs of undergraduate disciplinary majors, while state policy can allow flexibility and provide additional supports to expand access to residency pathways to many more secondary certifiers.