

## **The Importance of a Sustained Mentor Program in Preparing Math Educators**

In traditional education preparation programs across Texas, mentoring occurs during professional placements. Though these placements can vary in length and context, most often teacher-candidates are paired with mentor teachers as they complete their initial clinical internship and their clinical practicum, or student teaching. This means that universities are relying on local public-school educators to guide teacher-candidates through formative field experiences. This can be problematic as public-school educators are being asked to do “the work of teacher education in addition to fully carrying out the responsibilities of classroom teaching” with little to no compensation (Zeichner, 90). Additionally, most of the public-school educators were not trained to be mentors, and often lack the time and resources needed “to implement a more active and educative conception of mentoring” that is effective in preparing new educators (Zeichner, 90).

A group of faculty and staff from the College of Sciences and Mathematics, in collaboration with the College of Education, at a Texas university sought to change this through implementing a new mentor system. In 2012 they were able to begin their work on this goal when they applied for, and received, a grant from the National Science Foundation to implement the Robert Noyce Scholarship program; calling the program Talented Teachers in Training for Texas or T4. Through T4, the teacher-candidates were afforded the opportunity to work with veteran science and math teachers that were hired to mentor the T4 teacher-candidates throughout the entirety of their undergraduate experience and into their first years as classroom educators.

## What We Learned

Over the course of seven years T4 teacher-candidates were interviewed and the findings revealed that the sustained mentoring relationship with a STEM teacher was beneficial in helping T4 teacher-candidates become qualified, effective classroom teachers. The benefits emerged into the following themes.

### *Encouragement and Praise*

The ability to provide both praise and encouragement to the T4 teacher-candidates was important. Chris explained that he had trouble with classroom management during his internship but through meeting with his mentor weekly he found that they “encourage us and you know, assured us that it’s not a one-day battle.” He went on to explain “through hearing many different perspectives through our T4 mentors that helped me to become natural” at classroom management. Others echoed similar experiences, T4 teacher-candidate Amanda explained that having her mentor “telling you what you are doing right, what your strengths are” was “like having a confidence booster” (Wagnon, et al., 2020).

### *Content Specific*

One important benefit of a T4 mentor was their content specific expertise. Chris revealed that he felt “like the conversations that we have are really priceless and you know very meaningful to us” as future math teachers. Another T4 teacher-candidate, Beth, explained that she trusted the advice because “it came from a veteran and it may be easier for me to buy into than like things than our administrators might say, because most administrators have not taught math or were not in the environment like we are in. It’s a totally different world, and especially when you’re a

young female. And so it's nice to hear from someone who has been in your shoes” (Wagnon, et al., 2020).

### *Sustained Mentorship*

In traditional educator preparation programs, the official mentorship often concludes with graduation. However, in T4 the mentors were able to continue to offer guidance and assistance to former T4 teacher-candidates who became classroom teachers. Chris explained that “because the program is a mentorship in college and then also afterwards it definitely adds [up]” and “we discuss things that you typically won’t discuss in an education classroom or even a math classroom.” With the T4 funds, mentors were able to travel to teaching locations to assist T4 teacher-candidates following their graduations. Chris revealed that “I can remember, you know, sessions with, especially Ms. Lisa coming down mid-year and she’s helping us, you know, think of how we can get students to think outside the box.” Robert, another T4 teacher-candidate, echoed this, explaining that “I just look forward to the mentorship, there are so many things you don’t know about teaching like how to react in certain situations. Having a network, we will have people we can talk to” and serve as guides.

### **Conclusion**

Today, educators at all levels face unprecedented circumstances. COVID-19 has forced education systems across the world to reexamine long held beliefs, ideas, and practices. Though we recognize that unique opportunities of T4 were facilitated through grant funding, we contend that in a time of reexamination of best practices teacher education should reevaluate methods for improving mentoring and field experiences. Our faculty continue to consider ways to enhance this mentoring program and are examining techniques to further strengthen the public-school

connections to better support teacher-candidates learning, as research consistently calls for (Darling-Hammond, 2006; Tatto, 1996).

*This material is based upon work supported by the National Science Foundation under Grant Nos. 1136416, 1556983, and 1557295. Any opinions, findings, conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.*

### **References**

Darling-Hammond, L. (2006). *Powerful teacher education*. San Francisco: Jossey-Bass.

Tatto, T. (1996). Examining the values and beliefs about teaching diverse students: Understanding the challenges for teacher education. *Educational Evaluation and Policy Analysis*, 18, 155-180.

Wagnon, A.E., Hubbard, K., Cross, C. (2020) The Impact of the Robert Noyce Mentoring Program on Increased Teaching Effectiveness among Teacher Candidates. Submitted to *Texas Forum of Teacher Education*.

Zeichner, K. (2009). Rethinking the Connections Between Campus Courses and Field Experiences in College- and University-Based Teacher Education. *Journal of teacher education*, 61(1-2), 89-99.