Program Recruitment and Retention (PR²)

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Problem Addressed & General Approach

State of Recruitment and Retention

Teacher shortages across the nation are well documented. The American Association for Employment in Education (2020) specifically cites “mathematics teacher” as one of the top five critical shortage areas, with physics, chemistry and specific categories of special education only slightly ahead of mathematics. Colleges and universities across the nation report decreasing enrollment in colleges of education. Yet, a survey of students in science, technology, engineering, and mathematics (STEM) programs show nearly half of all STEM majors have an interest in teaching. It is imperative that mathematics teacher educators begin to understand how to better recruit and retain students in mathematics education majors.

Of equal importance is recruiting candidates who will positively impact K–12 education across the nation. Current national standards and guiding principles emphasize the need for recruitment of diverse prospective teachers that are academically high achieving. The Association of Mathematics Teacher Educators’ (AMTE; 2017) Standards for Preparing Teachers of Mathematics states: “An effective mathematics teacher preparation program attracts, nurtures, and graduates high-quality teachers of mathematics who are representative of diverse communities” (Standard P.5, p. 26). The guiding principles set forth by the Mathematics Teacher Education Partnership (MTE-Partnership) highlights effective recruitment strategies, high admissions standards, support systems, and diversity of candidates as key in the recruitment of prospective teachers (2014). The National Council of Teachers of Mathematics (NCTM; 2020) emphasizes the need to make sure our new teachers are capable of preparing our grades 7–12 students for entrance into college.

Also of note is the increasing challenge to attract students of color into mathematics education. The demographics of teachers currently in the classroom do not match those of the nation’s children; yet, there is significant evidence that students benefit from having teachers of color (D’Amico, Pawlewicz, Earley, & Mcgeehan, 2017). By 2024, students of color are expected to make up 56% of the student population, while the teaching force will remain primarily White. This statistic has changed very little in the years since 2000 (U.S. Department of Education, 2016). Retaining all prospective teachers is needed to increase the number of well-prepared secondary mathematics teachers. Continuing to find the best methods to retain across all prospective teachers is critical. These issues of recruitment and retention in secondary teacher education programs are pervasive across the United States.

Impact of Policy

There are a variety of ways in which teachers can attain licensure; however, for the remainder of this report we will be discussing programs that are delivered from universities. Darling-Hammond (2007) suggested the need for a paradigm shift in educational policy from the current top-down approach, which is one of designing controls to develop capacity that “enables schools and teachers to be responsible for student learning and responsive to diverse and changing student and community needs, interests, and concerns” (p. 363). Current educational policy requires teacher preparation programs to defend the effectiveness of their programs. Hence,
current policy critiques traditional and alternative teacher preparation programs but are void of promoting recruitment and retention of teachers. Further, well-prepared teachers who come through comprehensive university programs are much more likely to stay in teaching than those who are prepared through alternative licensure programs (LPI, 2018). Advocacy is needed for policy changes for the secondary mathematics teaching profession, as well as for preparation programs, that will increase the number of well-prepared secondary mathematics teachers. The need for teachers who both represent the communities they serve and are retained in the profession is significant. Figure 1 shows the key decision points secondary mathematics teachers make in becoming and staying in the teaching profession. At many of these points, local, state, and national policies come into play that influence their decisions.

Figure 1. Decision Points of Secondary Mathematics Teachers.

Current Progress
The RAC is concurrently developing a white paper that captures the challenges and barriers of recruitment and program retention while preparing a Noyce Track 4 Submission for an August 2022 RFP. The goal of this white paper is to raise the awareness of how difficult it is to recruit students to secondary mathematics teacher education, much less to education or even to a traditional college or university. The Noyce grant submission aims to study how state and federal policy impact a program’s ability to recruit and retain students. Our study will investigate four research questions: (1) What state, institution, or program policies lead to improved teacher candidate persistence and retention? (2) What state, institution, or program policies hinder teacher candidate persistence and retention? (3) What state, institution, or program policies negatively impact equity and diversity in programs? and (4) How do variance in these policies due to COVID-19 impact teacher candidate persistence and retention? It is our hope that this research will inform the field by highlighting the impact (both positively and
negatively) that state, institutional, and program policy has on students. Further, we hope to leverage the relaxing of policies due to the COVID-19 pandemic to demonstrate that many of the current policies are overbearing and, potentially, not necessary. Our research methodology will include program-level case studies as well as policy analysis that highlight themes and trends in policy enactment.

Resources

The work of this RAC draws heavily on the work that is accomplished at our own institutions. Understanding how other institutions engage in recruitment has been very beneficial as we borrow and replicate ideas. For an outline of work at RAC member institutions, we encourage referencing Section IV: Opportunities for Recruitment and Retention in *The Mathematics Teacher Education Partnership: The Power of a Networked Improvement Community to Transform Secondary Mathematic Teacher Preparation* (Martin, Lawler, Lischka, & Smith, 2020).

Opportunities for Engagement

A small group of RAC members is working on a Noyce Track 4 submission. Members of the MTE-Partnership will have an opportunity to engage as a researcher if/when the RAC wins the grant. Information will be shared with members as the grant development and submission progresses.