

Building GTAs' Knowledge & Motivation to Promote Equity in Undergraduate Mathematics

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Promoting equity in undergraduate mathematics education is of vital importance, yet has received considerably less attention than equity in K-12 mathematics. The current study focuses on a pedagogical training program for graduate teaching assistants' (GTAs), which emphasizes equity in their teaching of undergraduates. The study examines GTAs' journals and open-ended survey responses, including their definitions of equity and the ways they promote equity in their classrooms. The research will foster discourse about ways of promoting equity in undergraduate mathematics and about professional development for undergraduate mathematics instructors.

Keywords: equity, teaching assistants (TA), pedagogical training, diversity, doctoral students

Strengthening the teaching skills of graduate teaching assistants (GTAs) in the mathematical sciences is a powerful way to increase the learning of the undergraduates they currently teach and those they will teach later as faculty members. GTAs' knowledge, skills, and motivation for promoting equity contribute to their effectiveness in ensuring all their students learn. Equity goes beyond providing all students with the same opportunities, avoids "deficit views" (NCSM & TODOS, 2016, p. 1) and "gap-gazing" (Gutiérrez, 2008), and is related to "both conditions and outcomes of learning" (Aguirre et al., 2017, p.124). Although there has been considerable attention to equity in K-12 mathematics (e.g., Boaler & Staples, 2008; Gutstein, 2016), equity in undergraduate mathematics education research warrants more attention as noted by Hauk and D'Silva (2018) and Adiredja, Alexander, and Andrews-Larson (2015).

To that end, the current study describes a collaborative grant-funded effort by three public universities to provide pedagogical training to mathematical sciences doctoral students serving as GTAs, with a focus on promoting equity in their classrooms. Gutiérrez's (2018) call to action and methods for "rehumanizing mathematics" undergird this project's training around equity, while Tanner (2013) is one source for additional strategies for promoting equity and engagement.

GTAs from the pilot phase of the project wrote reflections on a seminar about equity, and all GTAs in the current project completed a survey with open-ended questions about equity. The poster examines GTAs' perspectives on defining equity and promoting equity in their teaching, including similarities and differences across schools and between those who are new to teaching (mentees) and those who have been in the program for more than a year and serve as mentors. Initial findings suggest that some GTAs see equity as equal treatment of all students, while other GTAs, especially mentors, see equity as equipping all students for success. Methods identified for promoting equity include responsiveness to questions, providing extra help and scaffolding, not assuming prior knowledge, attending to individual students' needs, and fostering supportive and respectful classroom environments. The poster will foster discourse about equity in undergraduate mathematics courses and about professional development for undergraduate mathematics instructors.