



Alejandra Salinas | Professor of Mathematics Education



RESEARCH PROJECT

Pre-service Teachers Conceptions of Equity and its Relationship to the Teaching and Learning of Mathematics

To help close the persistent opportunity gap in mathematics education between the group comprised of students of color and students from low-socioeconomic background and their White, middle-class counterparts, there is a need to equip preservice teachers with the knowledge necessary to better educate this student population. In order to do this effectively, research-based curricular materials that help secondary mathematics preservice teachers have high expectations of all students, practice thoughtful pedagogy, and have a sense of social responsibility must be developed. This research consists of many inter-related phases, including: (1) studying what conceptions around equity in mathematics education preservice teachers hold prior to any intervention, (2) determining which types of tasks and activities elicit and help change those conceptions, and (3) measuring what change occur. Currently, much of the focus of this project has been around the first two phases. However, there is no research-based instrument that measures preservice teachers' conceptions of equity in relationship to the teaching and learning of mathematics. Therefore, the creation of a survey instrument is the next focus of the project for the purposes of gathering quantitative data around the other two phases.

This work has to potential to narrow the mathematics opportunity gap by transforming mathematics education programs and the teaching of mathematics in secondary schools. The survey, tasks, and activities developed through this project will be widely disseminated. The survey will provide research-based information about what is and is not working in courses and programs designed to change preservice teachers' beliefs, attitudes, and dispositions towards equity and diversity in mathematics classrooms. Moreover, the tasks and activities can be implemented in these courses in order to address any gaps identified by the survey.

Biographical Sketch

Alejandra Salinas is an Assistant Professor of Mathematics Education. Her broad research interest is in the improvement of teacher quality in mathematics. Currently, she is focused on studying preservice teachers' conceptions of equity in mathematics. She is also involved in exploring the relationship among the use of discourse and justification and elementary preservice teachers' mathematical knowledge for teaching. Moreover, she is actively involved in PBS' *Ready to Learn* initiative as a mathematics education and professional development specialist. Her awards and recognitions include a doctoral student fellowship from the Institute for Education Sciences and an early career fellowship (STaR) funded by that National Science Foundation. Solicitations for articles around this research can be sent to Salinas@bu.edu.