Exploring Instructor Questioning in Community College Algebra Classrooms and Its Connections to Instructor Knowledge and Student Outcomes

Saba Gerami, University of Michigan
Linda Leckrone, Washtenaw Community College
Vilma Mesa, University of Michigan

We describe a process to characterize the questions asked by instructors in community college algebra classrooms and explore the relation between instructor questioning practices and instructor knowledge of algebra for teaching, as well as the relation between instructor questioning practices and student outcomes in the courses. We found that although the instructors asked many questions while teaching, the majority of their questions were of lower cognitive demand—asking students to recall already-known information—and had minimal wait time. We also found small but significant positive correlation between the cognitive demand of instructors’ questions and instructor knowledge of algebra for teaching, and small but significant positive correlation between the cognitive demand of instructors’ questions and student outcomes.

Saba Gerami is a doctoral student in mathematics education at the University of Michigan. Saba has a BS and an MS in pure mathematics. Prior to attending University of Michigan, she taught mathematics at Allan Hancock College and Cal Poly–San Luis Obispo. Saba is interested in mathematics instruction at community colleges and teacher decision-making in student-centered classrooms.

Linda Leckrone received her PhD from the University of Michigan School of Education and is a current instructor of mathematics at Washtenaw Community College. Her research interests include mathematics instruction and curriculum at community colleges. In the last year of her PhD, she was involved in the work discussed in this article.

Vilma Mesa is a professor of education at the University of Michigan. She investigates mathematics instruction and the role of resources in undergraduate mathematics and has collaborated with several community college faculty on federally-funded projects. She has BS degrees in computer sciences and mathematics from the University of Los Andes, and a master’s and PhD in mathematics education from the University of Georgia.