

They Know More Than You Think: An Anti-Deficit Framing of Students' Understanding of Intercepts of a Function Using Multiple Representations

Anne Cawley, California State Polytechnic University, Pomona

This article reports findings from a study that investigated how six college students solved nine problems on linear functions, attending primarily to the types of representations they used to describe the intercepts of the function. Specific focus is given to two students who transition their understanding of the x -intercept through engagement in a problem. Findings suggest that students prefer using the graph of the linear function and that students' conceptions of the intercepts may transition while working on the task and through considering various representations. Implications suggest that instructors can capitalize on providing students opportunities to engage with multiple representations in order to enhance and connect their prior knowledge to concepts related to functions.



Anne Cawley is an assistant professor of mathematics and statistics at California State Polytechnic University, Pomona. Her research focuses on mathematics instruction, student course experiences, and issues of equity, inclusion, and diversity at two-year colleges.