

MATH DEPARTMENT COLLOQUIUM



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Students' ways of thinking about graphs: "I just don't like that"

"What do we take as evidence for student understanding?" is a question that has plagued educators and theorists for centuries. In this talk, I use students' graphing activities as a vehicle to discuss their understandings of mathematics concepts including rate of change, function, and coordinate systems. Drawing on clinical interviews and teaching experiments with undergraduate mathematics students, I argue that common curricular approaches constrain students' opportunities to construct productive and sophisticated mathematical abstractions. Complicating the matter, I describe that common curricular approaches enable student meanings to problematically "fly under the radar." As an example, I illustrate that common approaches to functions and their graphs afford students constructing ways of thinking constrained to sensorimotor elements (both perceptual and kinesthetic) of drawing a graph.

Dr. Moore received his PhD from Arizona State University in 2010. He is currently an Associate Professor at University of Georgia.