1145-J5-2613   **Erika J. David*** (`ejdavid@asu.edu`). *Undergraduate Students' Interpretations of Graphs of Real-Valued Functions with Statements from Calculus.*

In commonly-used Calculus curricula, graphs of functions accompany key definitions and theorems. Students' interpretations of the graphs they encounter may support or hinder their understanding of concepts in Calculus. This presentation describes an investigation of undergraduate students' interpretations of graphs of real-valued functions and their effects on their interpretations of Calculus statements. I conducted clinical interviews in which students were asked to evaluate propositional statements related to Calculus concepts using graphs of various functions. The related concepts were: (1) the Intermediate Value Theorem, (2) injective functions, (3) increasing functions, (4) continuity at a point, (5) the difference quotient, and (6) the Mean Value Theorem. Analysis of these interviews indicates that students' interpretations of graphs may differ from convention, that the same student's interpretations may differ across contexts, and that their interpretations may impact their interpretations of statements from Calculus. I describe the ways in which my analysis expands the constructs of value-thinking and location-thinking (David, Roh, & Sellers, 2017). I also discuss the implications of these findings for curriculum and instruction, as well as further research in this area. (Received September 25, 2018)