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Investigating Calculus Instructors' Responsiveness to and Interpretation of Student Thinking.

Understanding how students think about mathematics has been identified as an integral component in supporting effective instructional practices. Further, there is evidence that utilizing student thinking to support effective instructional practices relies on instructors' responsiveness to student thinking. In this talk, we present preliminary findings from a survey investigating calculus instructors' responsiveness to student thinking from 12 institutions. Additionally, we draw on interviews conducted at one of these institutions to complement the survey findings with qualitative data. The interviews investigated calculus instructors' dispositions towards and interpretation of student thinking as they examined students' work on calculus tasks. The interview transcripts were analyzed using an analytic tool inspired by the work of Jacobs, Lamb, and Philipp's (2010) classification of teachers' ability to attend to, interpret, and decide how to respond to student thinking. We use this tool to categorize instructors' responses as exhibiting robust, limited, or no evidence of interpreting student thinking. This work has implications for those interested in mathematical knowledge for teaching, specifically related to utilizing student thinking, and the development of this knowledge. (Received September 26, 2017)