

1116-R5-1730 **Andrea Young***, younga@ripon.edu, and **Kathryn Bruhns**. *Direct Embodiment in Differential Calculus*. Preliminary report.

In this talk, we present preliminary results concerning a semester-long study regarding the effectiveness of lessons in which students take an active role in learning geometric concepts in Calculus I by using their bodies to demonstrate the mathematical material. Guided by research in embodied cognition and direct embodiment, we conjectured that students would improve their conceptual understanding of certain calculus concepts by participating in lessons that required them to physically engage with the mathematical content. We developed six direct embodiment activities using floor chalkboards. Students were surveyed about their perceived learning gains after each lesson, and they also completed pre- and post-tests for each activity. (Received September 21, 2015)