1116-R5-370 **Jessica Gehrtz*** (gehrtz@math.colostate.edu) and **Mary E. Pilgrim** (pilgrim@math.colostate.edu). *Increasing Student Engagement in Learning Calculus Through PBL, Oral Assessments, and Writing.*

Evidence-based research in education supports the use of classroom methods that encourage student engagement in learning. Providing an environment that prompts students to analyze their own learning promotes the development of metacognitive skills, and has been shown to enhance learning. This is particularly important in mathematics courses, since a robust understanding of mathematics underpins success in other STEM disciplines, and is therefore essential for supporting increased persistence in STEM fields. Regrettably, mathematics courses are often taught in traditional, non-engaging, teacher-centered ways, especially at large institutions where many thousands of students enroll in these courses each year.

To address this problem, we have designed a model that incorporates problem-based learning, oral assessments, and writing as active teaching and learning strategies in the calculus classroom. Preliminary results indicate that students who participate in such activities perform better on both procedural and conceptual exam questions. We will present our framework for instruction, a description of activities, sample student responses, and some qualitative and quantitative results. We will also discuss the impact this has had on GTA training. (Received August 28, 2015)