

1135-H1-2203 **Jennifer Elyse Clinkenbeard*** (jennifer.clinkenbeard@csuci.edu). *Evaluating A Promising Practice: A Multi-Year Study of Student Outcomes in Flipped and Traditional College Algebra and Pre-Calculus.*

This study investigated the impact of flipping college algebra and pre-calculus classes with respect to key student outcomes. Both college algebra and pre-calculus are considered bottleneck' courses, with high enrollment demand but low success rates. This study took place at an urban public university comprised of about 40,000 students. The study included about 20,000 student records from 2010-2015. About 1300 of these students participated in a flipped section.

The flipped pedagogy for this study included three components: modular, interactive video lectures; a pre-assignment; and problem solving during class (Ichinose & Clinkenbeard, 2016). Identical assessments were used in both the traditional and flipped classes, and students did not self-select. There were no significant differences between flipped and traditional students on background measures, including high school GPA and math SAT score.

Significant differences between the flipped and traditional groups were observed in pass rates, course grades, and common exam scores, favoring the flipped groups in both college algebra and pre-calculus. Analysis with respect to gender and ethnicity showed that gaps in achievement in a traditional environment were smaller or nonexistent in the flipped environment. (Received September 25, 2017)