

Achievement in Flipped College Algebra and Precalculus: A Multiyear Study

Jennifer Clinkenbeard

Claremont Graduate University, California State University Monterey Bay

Mathematics courses in college algebra and precalculus have long been considered “bottleneck” courses having high enrollment demand but low success rates. This study investigated differences in academic achievement in flipped versus traditional-lecture college algebra and precalculus courses at a large urban university in Southern California. Student records from Fall 2010-Fall 2015 were considered for the study, with the first introduction of the flipped class in Spring 2014. Significant differences in pass rates between the flipped and traditional groups were observed, favoring the flipped groups in both college algebra and precalculus. There were no significant differences between flipped and traditional students on high school GPA and math SAT score. For the eleven instructors that taught in both models, any significant differences in pass rate favored that instructor’s flipped groups.



Jennifer Clinkenbeard is an assistant professor of mathematics at California State University Monterey Bay. She recently finished her doctorate from Claremont Graduate University.

Clinkenbeard is interested in active pedagogy and its role in reducing achievement gaps in mathematics.