

Mathematics Success During the Pandemic: Findings and Future Implications

Amy Osborne

Clark State College

With the sudden onset of the pandemic, little was known about the implications of transitioning college mathematics classes to online environments. Considering many students' difficulties in passing remedial and first-year mathematics courses in both synchronous and asynchronous classrooms, gaining an understanding of the impact of this transition to remote learning could inform both pedagogy and policy. This research used a causal-comparative design to determine whether—or to what extent—there is a statistically significant effect on the final course grades for undergraduate college students taking synchronous or asynchronous mathematics courses (i.e., prealgebra, quantitative reasoning, or college algebra) before Fall 2019 and during a pandemic in Fall 2020. Using data from a large urban community college in Central Ohio, the initial findings did not demonstrate a statistically significant difference in final course grades before and during the pandemic. Further disaggregating data by Pell eligibility, race/ethnicity, and first-generation status showed some differences in final course grades.

Keywords: pandemic, postsecondary mathematics success, college algebra, developmental mathematics



Amy Osborne holds a PhD in interdisciplinary studies with a concentration in education, an MS in mathematics with a concentration in statistics, an MS in psychology with a focus on cognition and instruction, and a BS in mathematics and physics. She has over twenty-five years in higher education, with her most recent appointment at Clark State College. Amy's research interests are at the intersection of cognitive psychology and the science of learning. Additionally, she is interested in the relationship of cognitive and affective variables to learning mathematics, particularly with first-generation and underrepresented college students. Her passion for teaching extends beyond higher education, and she has been found to teach students of all ages in areas such as glass-blowing and sustainable apiculture.