Using Guided Instruction in Strictly Online and Hybrid Classes to Foster Undergraduate Student Achievement and Attitudes toward College Algebra

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Introduction/Rationale
College algebra is a required course for most majors, but is viewed by many as a gatekeeper course for degree completion by students (Reyes 2010). In last couple years, many mathematics professors are increasingly turning to online homework systems to enhance teaching and learning in college algebra. Although research on the effectiveness of online homework systems has had mixed results, most studies conclude that online homework is as effective as traditional paper-and-pencil homework or is in fact an improvement over the traditional techniques (Burch and Kuo 2010). After seeing the effectiveness of online assignment systems in teaching, learning, and assessments, most universities including Georgia State University has started offering 100% online courses along with traditional and hybrid courses. Changing nature of student population, developments in technology, and busy life styles made online courses popular around the world. Various definitions of online education, including the types of courses, programs, and degrees have been examined by different researchers (Cejda 2010). We would like to examine both hybrid and online college algebra courses and their effects on Georgia State University students' achievement and attitudes towards College Algebra courses with this study.