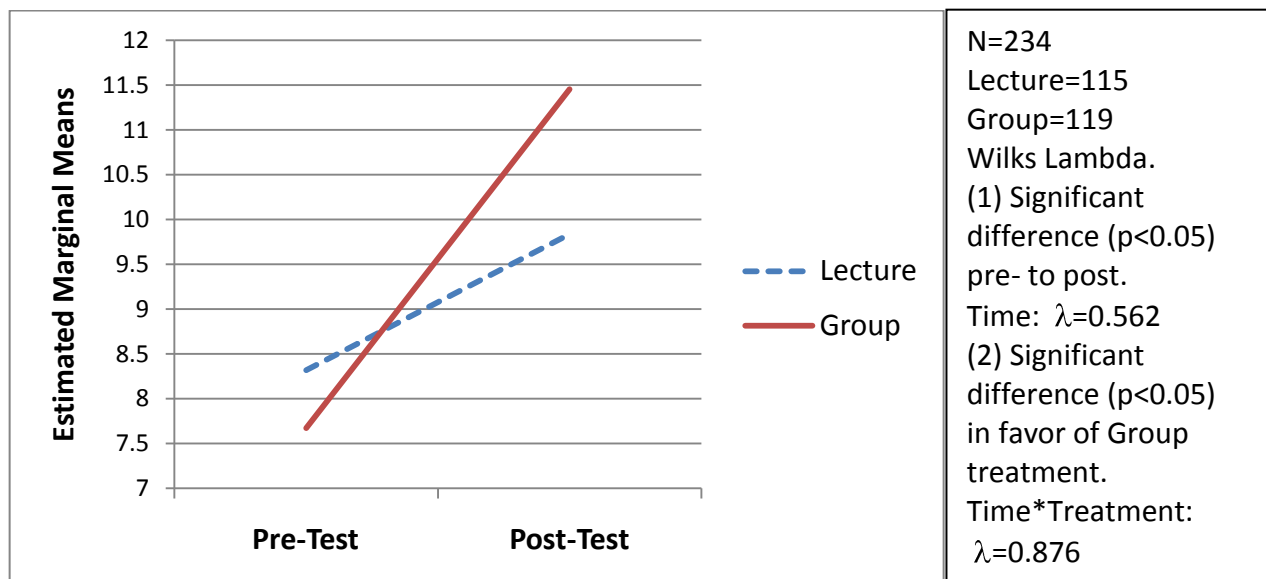


# Inquiry-Based Group Work Improves Student Achievement in Algebra

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In an experiment conducted at the University of Alabama at Birmingham in Fall Semester, 2009, we compare the effect of incorporating inquiry-based group work sessions versus traditional lecture sessions in a developmental elementary algebra course in which the primary pedagogy is computer-assisted instruction. Our research hypothesis is that inquiry-based group work sessions differentially benefit students in terms of mathematical self-efficacy, content knowledge, problem-solving, and communications. All students receive the same computer-assisted instruction component. Students are randomly assigned to a treatment (group work or lecture). Measures, including pre- and post-tests, are described. Statistically significant differences have previously been observed in a similar quasi-experimental study of multiple sections of a finite mathematics course in Fall Semester, 2008. The current study confirms the previous results and extends them to elementary algebra.



Undergraduates who do not place into a credit-bearing mathematics course take this developmental elementary algebra course. Many pre-service elementary school teachers place into elementary algebra, thus making this course a significant component of preparing K-6 teachers.

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