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Volkan Sevim* (vsevim@uscb.edu), One University Blvd., Bluffton, SC. *Investigating college algebra students' current pre-requisite understandings and testing the effects of an alternative pre-requisite algebra curriculum: A mixed-methods study.* Preliminary report.

The aim of this session is to share the results of a mathematics education project designed to help improve student learning in College Algebra, which uses students' current pre-requisite understandings to develop an alternative teaching module. This project stemmed from work conducted during the summer months of 2017. In August 2017, the author ran a free, one-week, 23 hours long math enrichment program called "Math Bootcamp," which was designed to strengthen the pre-requisite algebra skills of incoming freshmen. Since then, with the help of other faculty, the author has offered the program every summer. The author and other faculty have discussed the need for finding effective ways to scale-up the pre-requisite algebra instruction to reach more students taking College Algebra. The project has two objectives: 1) To investigate a small sample of newly admitted freshmen students' current understandings of pre-requisite algebra topics: fraction operations, evaluating expressions, rules of exponents, rules of radicals, and solving equations and inequalities, and 2) To develop and test, based on the information obtained through the interviews, an alternative curricular module on the listed pre-requisites that can be used across the university. (Received September 17, 2019)