

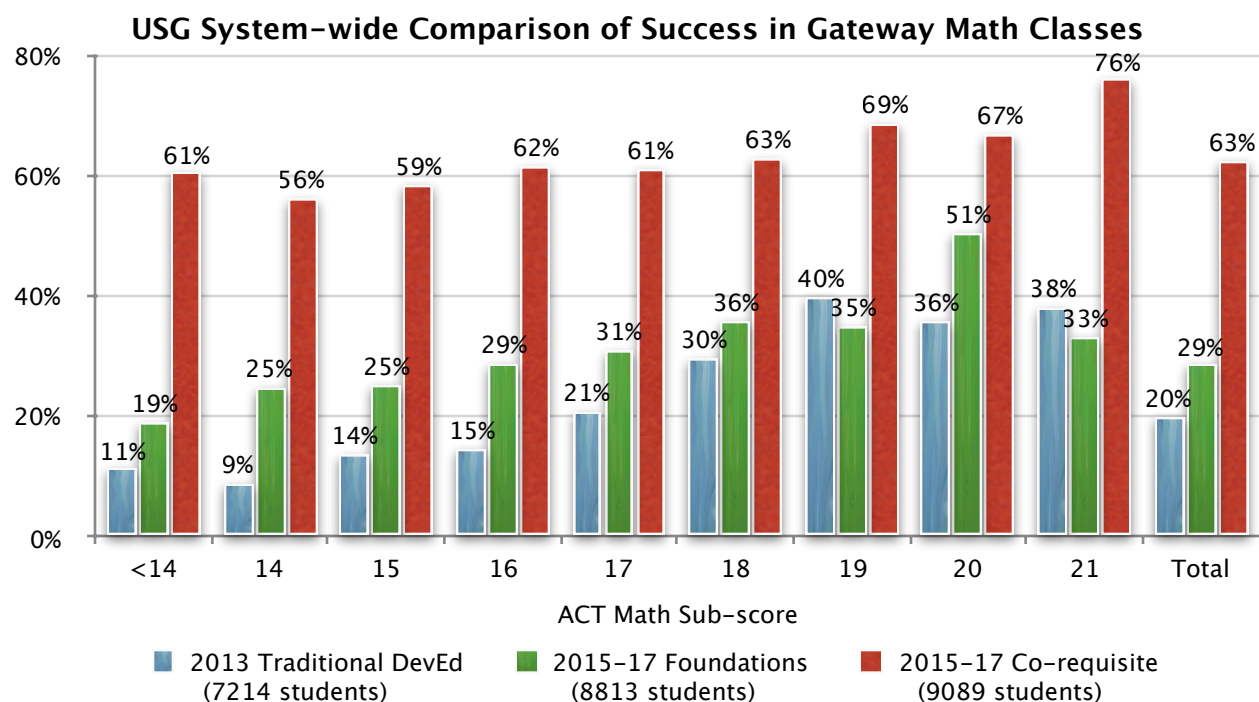


In Fall 2017, the University System of Georgia (USG) began a detailed analysis of the data comparing the effectiveness of three approaches to developmental education that were being used across the system in both English and mathematics. The USG is comprised of 26 universities and colleges ranging from open access institutions to highly selective research universities, with a student population of more than 325,000. To compare the effectiveness of these approaches to developmental mathematics, we compared the rates at which students were able to successfully complete a college-level mathematics course (college algebra, quantitative reasoning, or math modeling) within one academic year. The three approaches were: a traditional developmental mathematics sequence; the *foundations* model, in which students enroll in a single semester remediation, which must be successfully completed prior to enrolling in a college-level course; and the *co-requisite* model.

## CoRequisite Model

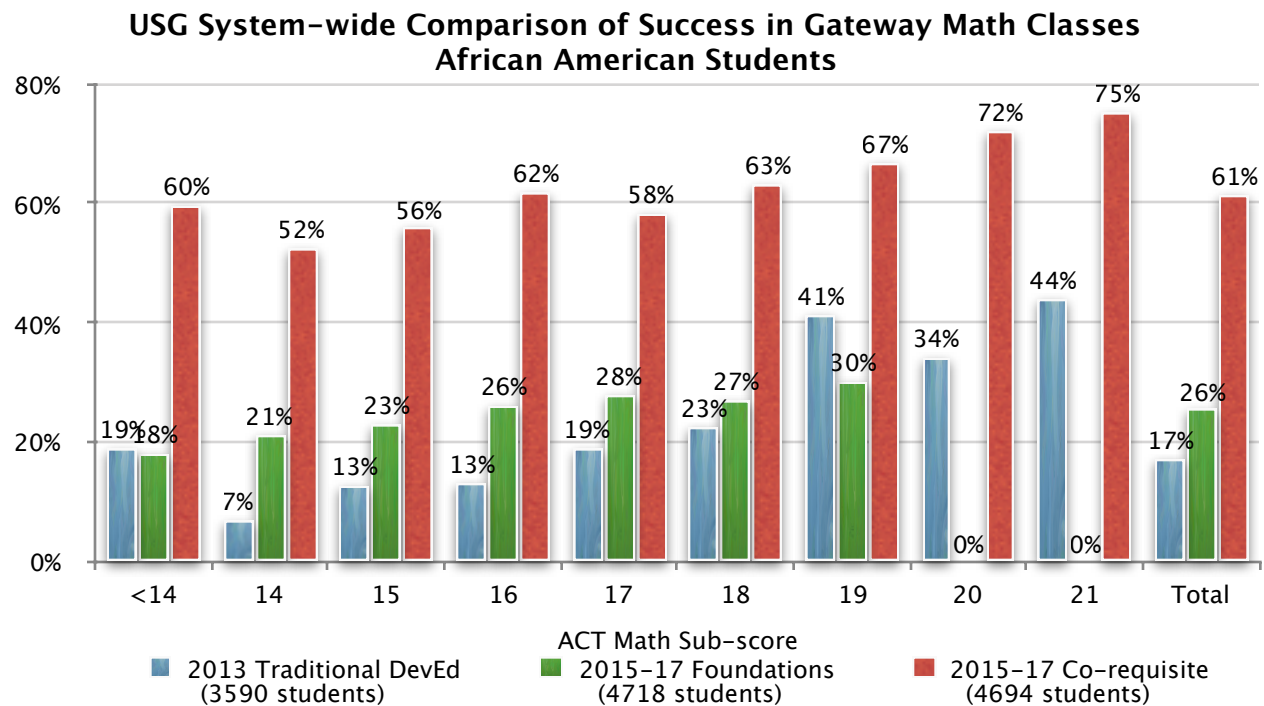
- Students enroll directly into a college-level mathematics course that satisfies a general education requirement.
- Students are required to also attend a *co-requisite* course that is aligned with, and offered alongside, the appropriate college-level course.
- The *co-requisite* course is designed specifically to help students master the skills and knowledge required for success in the accompanying college-level course.

Since the preparations of incoming student populations across the system vary considerably, we disaggregated the data using common uniform measures of preparation: ACT math sub-scores; SAT math sub-scores; and high school GPA. The results were striking, and mirrored results of a similar analysis from the Tennessee Board of Regents. The results disaggregated by ACT math sub-score are displayed in the chart below.



The students who were educated using the co-requisite model were more than twice as likely to earn at least a 'C' grade in their college-level math class when compared with their peers who used either of the other two pre-requisite approaches. Indeed, while the success rates more than doubled overall, the gains were not only for the most prepared students. In fact, the largest gains in success rates were experienced by students with the weakest preparation. The data for the other measures of preparation were similarly compelling.

While the improvement in the results for the overall student population were impressive, so too was the co-requisite model's effectiveness in improving success rates for all student sub-populations and in eliminating equity gaps. This is illustrated by the results for African American students who studied mathematics using the three models, as displayed in the chart below. Once again, those students who took a co-requisite mathematics course successfully



earned a 'C' or better at more than twice the rate compared to their peers who used the foundations or traditional approach. Once again, there were significant improvements in success rates for students at every preparation level, with the largest gains for those with the lowest preparation scores. What is more, these improvements in success rates are achieved whilst essentially eliminating any equity gaps.

These results are analogous to the improvements achieved by other racial groups and student sub-populations, such as low-income students and adult learners. For each category we saw a doubling in the rates at which students successfully completed a college level mathematics course. Moreover, that doubling holds true for students across the preparation spectrum, whether using ACT, SAT or high school GPA as the measure of preparation.

In light of these results, and similar results for co-requisite English, all 26 University System of Georgia universities and colleges moved entirely to the co-requisite model of development education for college mathematics and English beginning Fall 2018.