Don’t Look To College Admissions Policies To Fix High School Inequities

BLOG April 28, 2019 PAMELA BURDMAN

California State University is preparing to unveil a proposal to require an additional, fourth year of math or quantitative reasoning for admission to any of its 23 campuses. Some proponents have argued that such a policy will help reduce gaps in preparation across racial and ethnic groups.

This seems to be wishful thinking, however. Current admissions requirements don’t have that power, so it is hard to imagine why new ones would. Current policies require three years of math for admission, including an Algebra 2 course. Fewer than ⅓ of African American and Latinx students are eligible under these requirements, compared with about 41 percent of students overall, according to a study conducted two years ago.

Research by the Public Policy Institute of California sheds additional light on the substantial racial and ethnic disparities in math course-taking. It also raises the spectre that subtle forms of tracking may be contributing to those gaps, challenges that admissions requirements aren’t suited to address.

CSU requires students to complete the “a-g” course pattern and earn a “C” or better to be eligible for admission. In math (area “c”) that means completion of a minimum of three courses that align with the Common Core State Standards. According to the analysis by PPIC, a large majority of high school

students in a statewide sample start off on the a-g math sequence, but fewer than half (42 percent) complete it.

The reason many of those students don't finish the sequence, according to researchers Niu Gao and Hans Johnson, is not that they fail the courses. Overall passing rates are reasonably high. Nor is the issue that schools aren't offering these courses, as the vast majority of schools in the study do.

The main problem, the researchers say, is that students who pass a math course in the sequence don't necessarily progress to the next one:

"We find that among students who successfully pass algebra 1, only 66 percent move on to take the next a-g course in the sequence (geometry or equivalent) in subsequent years. Similarly, among students who pass a-g geometry, only 59 percent take the next course in the sequence, algebra 2; and among students who complete algebra 2, less than half (47%) go on to take a higher level math course, which includes trigonometry, pre-calculus, probability and statistics, and calculus."

These attrition rates are higher among African American and Latinx students, they say. In fact the difference between Asian American students and African American students almost doubles during high school. So what explains the gap, if not differences in individual students' performance? "Non-academic factors … may play an important role in student course-taking and their effects may be even larger among some students," PPIC says, specifying three factors:

- **High school graduation requirements.** California is one of the few states that require just two years of math for graduation. This is out of sync with admissions requirements for the state's public universities. Both CSU and the University of California require a minimum of three years including Algebra 2. Some districts have upgraded their requirements to align with university eligibility, but students at districts that haven't are at a distinct disadvantage when it comes to preparing for college. The gap could become even greater if CSU increases its expectations in math.

- **Course placement policies and practices.** PPIC notes that about a third of students who earn A's or B's in a math course don't proceed to the next course. These numbers are highest among African-American students — 46 percent of those who earn an A or B in geometry don't take Algebra 2, and more than half of those who earn A's or B's in algebra 2 don't proceed to take a more advanced math course.

- Awareness of such concerns led to passage four years ago of the California Mathematics Placement Act, an attempt to prevent high school students being placed into courses they don't need and that don't lead to college readiness. It is important to analyze the data to see whether math placement has become more equitable since its passage. The current shortage of math and science teachers creates an additional impediment to increasing the supply of advanced math courses.

- **Course counseling and academic support.** Underrepresented students are more likely to attend schools without effective course counseling and other academic supports. "These students may fail to progress in the a-g sequence, even when they are ready," say the PPIC authors. "This is especially problematic in light of the high educational aspirations that students have for themselves and that parents have for their children."

Together, these factors contribute to a tendency for students to be "tracked" into different levels of the same math course, often without their awareness. The National Council of Teachers of Mathematics, in a landmark 2018 report, called for high schools to end the practice of tracking in mathematics. The report, Catalyzing Change in High School Mathematics noted that,

"Tracking is insidious because it places some students into qualitatively different or lower levels of a mathematics course and, in some cases, puts students into terminal mathematics course pathways that are not mathematically meaningful and do not prepare them for any continued study of fundamental concepts. Too often, placement into different tracks is based on a variety of nonacademic factors, such as perceived (but not potential) academic ability, race, socioeconomic status, gender, language, or other expectations ascribed to students by adults."

If the goal is to increase equitable access to advanced math, policies to address the three barriers highlighted by PPIC—not university admissions requirements—are the place to begin.