

Pikes Peak Community College offers EdReady in a summer Math Attack program to help low-income, disabled, veteran, and first-generation students gain confidence and skills in math problem-solving.

Background

At Pikes Peak Community College (PPCC) in Colorado Springs, Colorado, the Student Support Services' TRiO outreach offers a four-week summer Math Attack program to help low-income, disabled, veteran, and/or first-generation students gain confidence and skills in math problem-solving.

Math Attack uses EdReady as the core teaching component in the classroom. EdReady is a personalized online learning system that helps students identify gaps in their math readiness and then provides resources they need to achieve competency expectations.

Counselors from the local feeder high schools help the college identify incoming students who would benefit from the Math Attack program. PPCC also has a marketing campaign to promote Math Attack at all three of their campuses, and they worked with the PPCC Veterans' Upward Bound program to recruit veterans who may need support in math.

Implementation

Students in the Math Attack program meet from 9:00 a.m. to 12:00 p.m. two days a week for four weeks, for a total of 24 hours.

On the very first day of the program, students take two assessments. The first is a ten-question EdReady pre-assessment. The results of the pre-assessment determine which of the three levels of Math Attack the students will work in. Students who get 0 to 3 answers correct take level 1 (basic algebra); 4 to 6 answers correct take level 2 (intermediate algebra); and those with 7 or more correct answers take level 3 (college algebra).

The second assessment students take on that first day is a TRiO mathematics attitude assessment with nine questions that measure the students' feelings about their own math

confidence and self-reported abilities. For example, students rate themselves, on a scale of 1 (strongly disagree) to 7 (strongly agree), on questions such as, "Generally, I feel secure about attempting math problems" and "I can get good grades in math."

Each week, the first day of Math Attack begins with a light snack and conversation surrounding a math myth, addressing math fears, and building confidence. Students then receive a lecture centered around a mathematical concept covered in the EdReady pre-assessment. Next, students work at their own pace in EdReady to reinforce understanding of the concepts.

The second day of each week also begins with a light snack, followed by a short discussion on the previous meeting's concept. Students then leave the classroom and head outside so they can see how that week's core concept relates to the world in which they live and observe a real-life application of the mathematical concept they're trying to grasp. Examples include mixing chemistry solutions; looking at proportions using shadows outside; and building model roller coasters.

To encourage reluctant students to persist, students receive confidence-boosting text messages and phone calls each week from a TRiO Success Coach. Students also receive coaching calls and text messages while enrolled in the next semester's math class (students cannot be concurrently enrolled in a math course while they attend Math Attack).

On the last in-class day, students re-take the TRiO mathematics attitude assessment to measure how students' attitudes have improved over the four weeks of Math Attack.

On the very last day of the program, the class goes on a field trip that ties in more real-life examples of mathematics in action. Past trips have included visiting a science center to talk about air travel, speed, and lift; a planetarium to discuss rockets and trajectories; and Elitch Gardens theme park to see real roller coasters. They also discuss the formula "Distance equals rate times time" as they travel to the destination.



"Ninety-five percent of all students who participated in Math Attack passed their first math pathway course for their degree. We went from a less-than-50% pass rate to a 95% pass rate."

--Carrie Riffée, Student Support Services, Pikes Peak Community College

What's Next?

After completing the four weeks of Math Attack, students become eligible to receive TRiO services: 16 hours of one-on-one tutoring one hour per week, plus up to 6 hours of group tutoring on Fridays. Students can also continue using EdReady as a resource for their future math classes.

PPCC Student Success Services staff monitor student persistence in mathematics and college for three years following Math Attack.