

Product Name MyLabsPlus

Course Names Elementary Algebra, Intermediate Algebra, and other College Math courses

Course Format Modified emporium: mastery-based, flexible pacing, scheduled classes, and open lab

- **Key Results** The *Do the Math* modified emporium model increased pass rates and closed the achievement gap between the college's low-income and other students.

Materials in Use

Developmental Math, Squires & Wyrick

Implementation

Chattanooga State's math department employs *U Do the Math*, a nationally acclaimed program and winner of the 2009 Bellwether Award and 2014 Bellwether Legacy Award conceived by John Squires, math department head.

Classes are limited to 24 students; most classes have 15–20 students. There is one tutor or faculty member for each 15–20 students in the lab. Students receive individual help in both the lab and classroom.

The math curriculum is organized into modules of one to five sections and 50 problems of homework per week. Students watch videos of the material and complete the module homework on MyLabsPlus. Students are required to show their notes to the faculty and tutors when testing and as part of their attendance grade. After watching the videos and completing the homework, students take a module quiz comprising 10 problems from the module homework. Each course includes a midterm and a final exam consisting of 15 problems each. Quizzes and exams are taken in the classroom or the lab.

Students must score at least 90 percent on homework, 80 percent on quizzes, and 75 percent on exams. They may take quizzes multiple times and only their best scores count. Students who fail quizzes receive help, are assigned more work, and may attempt the quizzes again. Once they pass their quizzes, they may retake them again for even higher scores.

Read more about how *U Do the Math* helps students gain an edge in math. Visit the online education technology blog, edCetera, where the program was spotlighted on April 3, 2014. <http://edcetera.rafter.com/tools-to-help-students-pass-college-level-math-courses/>

Chattanooga State also implements a continuous enrollment system in which students who complete one course—developmental or college-level—can start their next course immediately. Students who complete multiple courses in one semester may add the second course and receive credit for the course that semester. Students that start in a course and only complete part of the course may take the course the next semester and the work they have completed will transfer in. The effect of the continuous enrollment plan is that it encourages students to keep working and it rewards them for doing so.

Assessments

| | |
|------------|--|
| 60 percent | MyLabsPlus unit exams |
| 15 percent | MyLabsPlus quizzes |
| 15 percent | MyLabsPlus homework |
| 10 percent | Work ethic (weekly class and lab attendance, plus demonstrated progress in the course) |

Use of MyLabsPlus contributes 90 percent to each student's final course grade.

Results and Data

Since implementing *U Do the Math*, Chattanooga State's success rates have dramatically improved (figure 1):

- Developmental math success rates increased 37.5 percent—from 48 percent before redesign to 66 percent after implementation.
- College math success rates increased 13.8 percent—from 65 percent before redesign to 74 percent after implementation.

the number of students succeeding in college math has increased by more than 60 percent since the redesign, and college math enrollment has exceeded developmental math enrollment for the past seven semesters (figure 2).

“Students focus on learning the material, not simply performing acceptably on high stakes tests on a given day.”

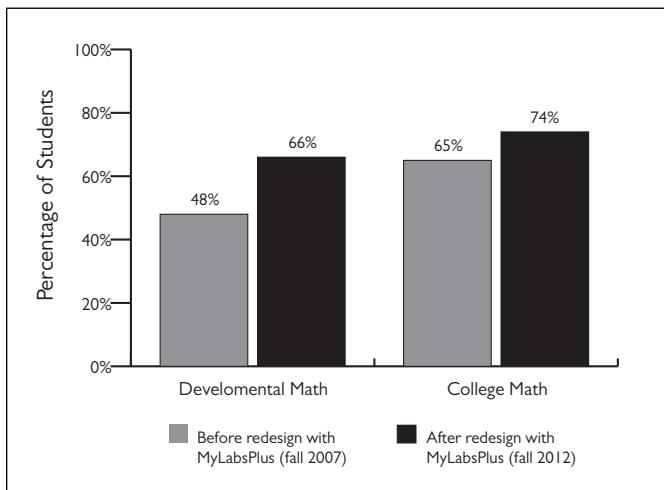


Figure 1. Developmental and College Math Success Rates before and after Redesign with MyLabsPlus, Fall 2007 and Fall 2012 ($n=8,300$)

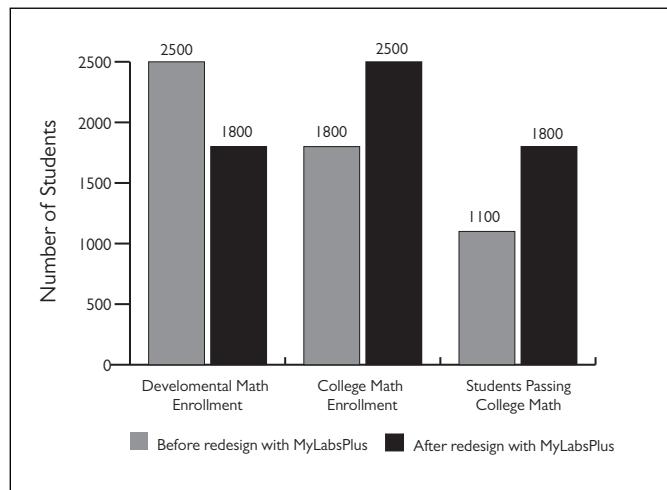


Figure 2. Developmental and College Math Enrollment and College Math Passing Data per Semester before and after Redesign with MyLabsPlus

Low-income students performed at nearly identical levels when compared to all students and experienced accelerated progress through the developmental math sequence:

- Low-income students in Elementary and Intermediate Algebra achieved within two percentage points of overall success rates.
- Fall-to-spring retention rates for low-income students in Elementary and Intermediate Algebra were nearly identical to overall retention rates.
- In Elementary Algebra, the percentage of low-income students completing more than one course was within one percentage point of the overall rate.

Finally, independent research group, SRI International, in conjunction with Next Generation Learning Challenges, found that *U Do the Math* has a “statistically significant impact on student outcomes” ($z=14.670$).

The Student Experience

Squires reports that students who participate in *U Do the Math* display none of the anxiety problems that exist in typical math classes. “The low stakes quizzes and tests and the mastery approach to learning combine to eliminate testing anxiety,”

he says. “Students focus on learning the material, not simply performing acceptably on high-stakes tests on a given day.” Students realize they can get their questions answered in both the class and lab. Squires also observes that students with special needs and disabilities do well in the redesign program.

In addition, students like the continuous enrollment option and they take advantage of it. In academic year 2012/13, 385 students completed multiple math courses in one semester, including some students who completed three courses.

Conclusion

Establishing a friendly environment in both the lab and the classrooms has been critical to the success of the program. “We tell students that they are here to work on math and that the instructors are here to help them,” says Squires. “We also tell them that they are going to do more work than ever before and get more help than ever before.” Since there is no difference between what students do in the classroom and the lab, the tone of each course is established from the onset.

Submitted by John Squires, U Do the Math Program Director
and Math Department Head
Chattanooga State Community College