Product Name	MyMathLab
Course Name	Technical Math
Course Format	Face-to-face

Key Results Average ABC rates rose 11 percent after implementation of MyMathLab in spring 2011 and 31 percent after Contextual Projects were assigned within MyMathLab in fall 2013.

Submitted by
Matthew Hudock, Professor

Course materials
MyMathLab and *Mathematics for the Trades,* Carmen and Saunders

Setting

Part of the Alamo Colleges, St. Philip's College is a public, community college with open admission and a diverse student body. Sixty-three percent of students attend part time, 67 percent are employed either full- or part-time, and the average age is 27. It is also the only college to be federally designated as both a historically black college and a Hispanic-serving institution.

Challenges and Goals

Technical Math is designed to help students master the math skills necessary for their particular vocational and technical fields. Professor Matthew Hudock reports that his biggest challenge is getting students to see the relevance of the concepts they're learning to their fields. He hypothesized that adding MyMathLab into the curriculum would improve learning outcomes and motivate students to the point where they would sufficiently perform the calculations they need to succeed in their future technical trades.

Implementation

Class meetings include 25–50 minutes of both lecture and real-world problems involving measurement, ratios, proportions, percents, geometry, trigonometry, and algebra. Students use critical thinking in order to determine the appropriate process for solving problems.

Hudock adopted MyMathLab as soon as it became available for the textbook he uses. He assigns MyMathLab homework for each section, with a prerequisite that students first access the multimedia features associated with each assignment. He encourages students to complete homework before class time,

but the actual due dates are immediately before each test. Students have unlimited attempts at homework.

To promote student engagement in real-world applications and the development of critical-thinking skills, Hudock developed Contextual Projects in which students are assigned a scenario in their field of study. For example, "You have $500 allotted for advertising and four media through which to do so. Choose how you should distribute your advertising budget."

Hudock uses MyMathLab's Custom Question Builder to assign Contextual Projects within the program. Students have two weeks to complete each project; projects are due one week after each test.

Assessments

70 percent	Tests (four, paper-and-pencil)
15 percent	MyMathLab homework
10 percent	MyMathLab Contextual Projects (four)
5 percent	In-class activities

Results and Data

Student performance has increased since implementation of MyMathLab. For the two semesters prior to implementation (fall 2008 and spring 2009), the average pass rate was 64 percent, the average retention rate was 82 percent, and the average ABC rate was 46 percent. After the addition of MyMathLab homework and averaged across five semesters, all three measurements increased: average pass rate to 65 percent, retention rate to 84 percent, and ABC rate to 51 percent. What's more, in the two semesters since Hudock assigned Contextual Projects, the average retention rate has increased an additional eight percentage points (to 92 percent), and the average ABC rate has increased another nine percentage points (to 60 percent) (Figures 1 and 2).

In fall and spring 2013, Hudock's course experienced a dip in student performance. He explains that a new placement assessment was adopted at the school that included more
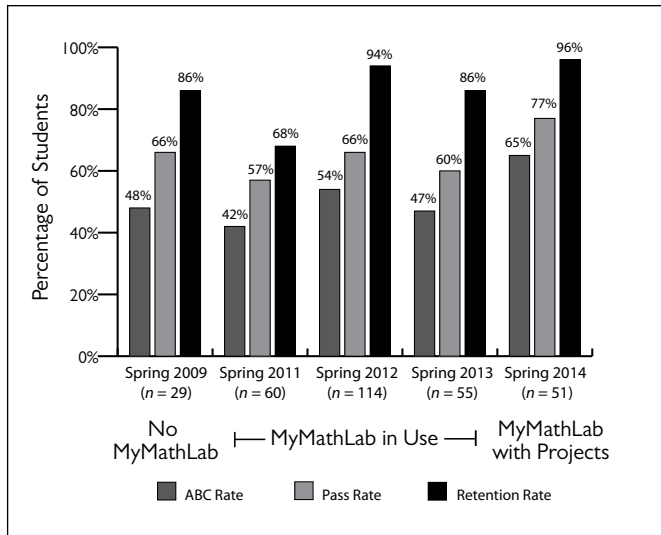
Figure 1. Student Outcomes before and after MyMathLab Implementation and Addition of Contextual Project, Spring 2009–Spring 2014
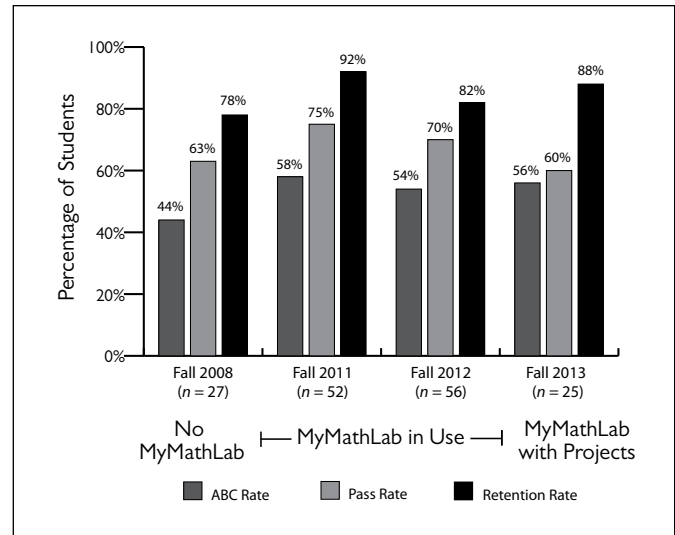*(No sections of the course were offered in spring 2010.)*

Figure 2. Student Outcomes before and after MyMathLab Implementation and Addition of Contextual Project, Fall 2008–Fall 2013
(No face-to-face sections were offered during fall 2009 or fall 2010.)

exemptions. As a result, students who do not have the necessary prerequisite knowledge are placed in the course. To help inform these new students, Hudock assigns a prerequisite MyMathLab assignment comprising 25 questions covering the skills and problems required at the beginning of the class.

The Student Experience

Hudock reports that his students appear more on task and more engaged since implementation of MyMathLab and the Contextual Projects. A spring 2014 student survey completed by 39 of 51 students (76 percent response rate) indicates that the majority of students recognize and value both aspects of the course (*n* = 39).

77% Somewhat or strongly agreed that Contextual Projects provide real-world learning experience.

74% Somewhat or strongly agreed that the projects helped them understand the concepts better.

Student comments include:

"The projects help me grasp concepts in real-world situations, which makes me want to learn the material."

"The projects put math into real-world uses."

"[The projects] offered me the chance to perceive math everywhere."

The majority of responding students appreciate MyMathLab and believe it helps them learn course material:

100% Replied that the Help Me Solve This learning aid was very useful.

97% Somewhat or strongly agreed that there are enough problems assigned in MyMathLab for them to learn course concepts.

95% Somewhat or strongly agreed that MyMathLab scores are a good indication of understanding.

92% Somewhat or strongly agreed that the instructor should continue requiring MyMathLab.

90% Somewhat or strongly agreed that they would like to use MyMathLab in other courses.

82% Somewhat or strongly agreed that they earned a higher grade because of MyMathLab.

Conclusion

Hudock is pleased with the results he's seeing. "I'm so glad I'm using MyMathLab in this course. It saves time in class, which has enabled me to add a test; and now I can use the same materials in both my face-to-face and online sections." Hudock reports that without MyMathLab, in summer 2012 he would have had to cancel two sections—one online, the other face-to-face—because neither had enough students. "Thanks to MyMathLab we were able to offer the course and teach half the students face-to-face and the other half took it online."