

Product Used **MyMathLabPlus**
 Course Name **Developmental Mathematics**
 Credit Hours **Three**



KEY TAKE-AWAY

By using MyMathLabPlus in a lab-based, mastery-learning redesign, JSCC successfully confronts developmental math issues, including low pass and subsequent success rates and institutional cost. The redesign's modular format accommodates varied skill levels and saves students money.

Textbook in Use

Connecting the Concepts: A Modular Approach to Developmental Math, custom workbook for Jackson State Community College

Course Implementation

Course Design

Jackson State Community College's (JSCC's) SMART Math redesign with MyMathLabPlus reorganizes three courses (basic algebra, elementary algebra, and intermediate algebra) into one self-paced, 12-module developmental mathematics course. Classes meet three hours per week with an instructor. Students may seek individual assistance from the instructor or with tutors at the SMART Math Center. Tutors are either retired teaching professionals or peers who have passed College Algebra with at least a B and completed tutor training.

Assessments

Students must complete a minimum of four modules per semester until all required modules for their majors are completed. Mastery of each module must be demonstrated before moving ahead. The number of modules required varies based on each student's educational and career goals. A student's final grade is the average grade of the four best modules that have been mastered.

5 percent	Attendance
10 percent	Notebook Problems <i>Students must score 100 percent and show work and processes for determining answers.</i>
15 percent	Homework <i>Completed on MyMathLabPlus. Students must score at least 80 percent to receive credit.</i>
70 percent	Test <i>Completed on MyMathLabPlus, proctored, in the math center. Students must score at least 75 percent to advance.</i>

Use of MyMathLabPlus

MyMathLabPlus is used for placement, homework, and tests. The Study Plan is assigned if a student fails a test. The coordinator course feature is also used.

Use of MyMathLabPlus contributes 95 percent to a student's final course grade.

Results and Data

Unlimited practice on MyMathLabPlus motivates students to do more math, thereby increasing not just student success, but mastery. Use of the Study Plan encourages remediation, increases confidence and accountability, and offers a point at which a tutor or instructor may intervene if necessary. And because the course is self-paced, students who are able can move quickly through the material and exit early; those who need more time can proceed more slowly.

The data at right show how JSCC's SMART Math redesign with MyMathLabPlus has positively affected student learning.

- Pass rates have increased from 41 percent to 54 percent—a 32 percent increase.
- Subsequent success rates have increased from 68 percent to 74 percent—a 9 percent increase.

In addition, Betty Frost, associate professor of mathematics, reports that since redesign, developmental math retention rates have increased by more than 46 percent and that the completion rate of the developmental math program as a whole have increased by a tremendous 75 percent.

Grade	Traditional Spring 2008	Redesign Pilot Phase I Spring 2008	Redesign Pilot Phase 2 Fall 2008	Redesign Pilot Phase 3 Spring 2009	SMART Math Fall 2009	SMART Math Spring 2010	SMART Math Fall 2010
A, B, or C	41%	54%	57%	59%	60%	59%	54%

Table 1. Pass Rates before, during, and after SMART Math Redesign with MyMathLabPlus (n=6,270)

Note: Spring 2008–Spring 2009 data represents a sample of the enrolled students; fall 2009–fall 2010 data includes all enrolled students.

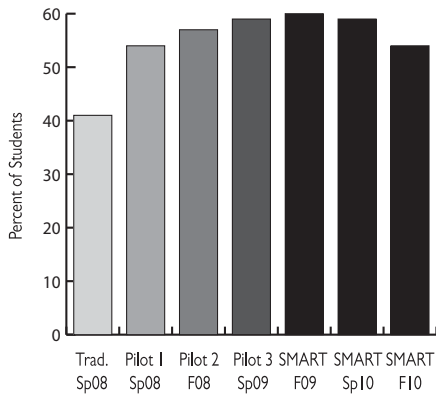


Figure 1. Comparison of Pass Rates before, during, and after SMART Math Redesign with MyMathLabPlus (n=6,270)

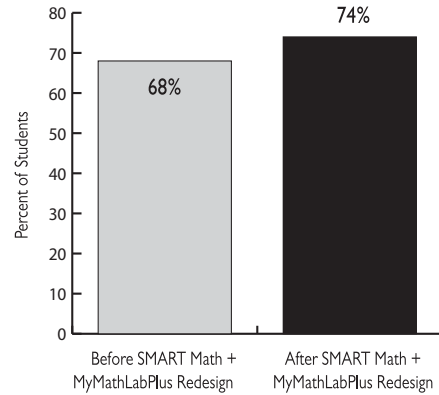


Figure 2. Comparison of Students Earning an A, B, or C in Subsequent College-Level Math Courses before and after SMART Math Redesign with MyMathLabPlus (n=775)

The Student Experience

Corinna Goehring, associate professor, reports that the redesigned format has positively impacted student attitudes toward math. “They exhibit more of an I-can-do-this attitude and much more willingness to persevere through the most difficult topics,” she says. “Their self-esteem is soaring.”

Feedback from students include the following:

- “I just love this course. Now I can help my children do *their* math homework.”

- “I never liked math and now this is my favorite course.”
- “If they had taught math this way in high school, I would have done much better.”

The redesigned format also saves students time and money. Students don’t pay for unnecessary course work and may complete any number of extra modules in one semester. Because the courses are self-paced and online, students can adjust their study schedules to suit life changes and can exert more control over travel and child care expenses.

Conclusions

The SMART Math redesign with MyMathLabPlus met all three of JSCC’s redesign goals: (1) improve student success and increase learning; (2) accommodate varying levels of preparation, math anxiety, and diverse learning styles; and (3) prepare students for educational and career goals instead of simply remediating high school deficiencies.

“When I enter the SMART Math Center for class, my students are already logged on and doing math,” says Frost. “I’m amazed at the energy in this environment. It’s the only way I’ll teach developmental math.”

In addition, JSCC accomplished an institutional cost savings of more than 30 percent by increasing class sizes from 24 to 30

students, reducing the total number of sections by 28 percent, allowing early exit, and using more adjunct faculty and tutors.

Frost is proud to announce that JSCC’s SMART Math Redesign with MyMathLaPlus was the 2010 winner of the prestigious Bellweather Award for Innovative Instruction and Services (awarded by the Community College Futures Assembly). The school is now working on applying the same redesign concepts and MyMathLabPlus to appropriate college-level courses.

*Submitted by Tim Britt, Associate Professor of Mathematics
Betty Frost, Associate Professor of Mathematics
Corinna Goehring, Associate Professor of Mathematics
Linda Pride, Ed.D., Associate Professor of Mathematics
Jackson State Community College*