Hillsborough Community College — Tampa, FL

Product Used	MyMathLab for Calculus
Course Name	Calculus I
Credit Hours	Five

KEY TAKE-AWAY

Compared to students of the traditional calculus format, those students who completed required homework using MyMathLab for Calculus had greater student gains, including improved grades, increased pass rates, and increased retention.

Textbook in Use

Thomas' Calculus, 12e, George B. Thomas, Jr., Maurice D. Weir, Joel Hass

Course Implementation

Course Design

Calculus I is a traditional lecture course designed for life science majors who require one semester of calculus. Classes meet four days a week for 65 minutes per meeting. Students are required to use MyMathLab for Calculus for homework and test reviews. They may use the program's additional learning features (e.g., videos, study plan) as desired.

The pilot described here was developed to assess the efficacy of the Thomas' Calculus textbook + MyMathLab for Calculus format versus use of a textbook from another publisher.

Assessments

5 percent	Attendance and participation
15 percent	Homework *Forty required assignments completed in MyMathLab for Calculus. The two lowest scores are dropped at the end of the semester.*
60 percent	Tests (six throughout the semester) *Pencil-and-paper, students with an A test average are exempt from taking the final exam*
20 percent	Final exam *Pencil-and-paper*
Optional	*Students may receive up to two bonus points per test by earning at least 80 percent on the associated MyMathLab for Calculus Test Review.*

Use of MyMathLab

MyMathLab for Calculus is used for homework and test reviews. The majority of the homework problems were drawn from the program's question bank.

Use of MyMathLab for Calculus contributes 15 percent to a student's final course grade.

Results and Data

Table 1 compares the final course grade distribution, pass rate, and retention rates of a course using MyMathLab for Calculus and a traditional course using a textbook from another publisher.

Viewed from every possible metric, the MyMathLab for Calculus-enabled course showed higher student gains than the nonPearson course.

- The percentage of students receiving a final course grade of A or B was more than twice as high: 80.77 percent compared to 38.83 percent.
- The pass rate was more than 50 percent higher: 92.31 percent compared to 60.11 percent.
- The retention rate was vastly improved: from 73.40 percent to 96.15 percent.

TWO YEAR • MORE THAN 20,000 STUDENTS

My students thank me for requiring homework in MyMathLab for Calculus. They recognize that when they practice, they're more prepared for tests. The average homework score was 96 percent.

—Brooke Quinlan, Assistant Professor of Mathematics
Hillsborough Community College

	Traditional Course		Course Requiring MyMathLab for Calculus	
Grade	Number	Percent	Number	Percent
A	38	20.21%	13	50.00%
B	35	18.62%	8	30.77%
C	40	21.28%	3	11.54%
D	12	6.38%	0	0.00%
F	13	6.91%	1	3.85%
FX	14	7.45%	1	3.85%
W	36	19.15%	0	0.00%
Total	188		26	
Pass Rate		60.11%		92.31%
Completers*	138		25	
Retention Rate		73.40%		96.15%

Table 1. Grade Distribution, Pass Rates, and Retention Rates with and without Required Use of MyMathLab for Calculus, Spring 2011 (*n*=214)

*Completers are students who received an A, B, C, D, or F. Noncompleters are those who received an FX (failure due to excessive absences) or a W (withdrawal).

The Student Experience

Most students won't do homework unless it is required of them. According to Brooke Quinlan, assistant professor of mathematics, students using MyMathLab for Calculus, "actually thank me for requiring homework in [the program]. They recognize that when they practice, they're more prepared for tests."

Quinlan's students "really embraced the use of MyMathLab for Calculus for homework—the average homework score for the class was 96 percent."

Conclusions

In light of the positive gains in pass rates, retention rates, and homework scores, Quinlan is committed to required use of MyMathLab for Calculus for homework.

Submitted by Brooke Quinlan, Assistant Professor of Mathematics
Hillsborough Community College