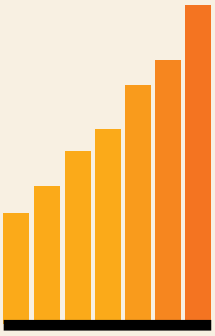
Proven results | Engaging experiences | A trusted partner



# raising the bar

A COMPENDIUM OF CASE STUDIES
ON THE EFFECTIVENESS OF
MYLAB AND MASTERING
FROM PEARSON

ALWAYS LEARNING

PEARSON

# What are students saying?

## MyMathLab®

"I love MyMathLab. It made it possible for me to actually sit down and learn math. I feel like there is someone or something there to help me along if I get stuck with a problem. I credit a lot of my passing grades to MyMathLab and thank you very much."

—Student, *Salt Lake Community College (UT)*

## MyEconLab®

"It was very helpful to get instant feedback. Sometimes I would get lost reading the book, and these individual problems would help me focus and see if I understood the concepts."

—Student, *Temple University (PA)*

## MasteringBiology®

"Seriously this was AMAZING. Helps so much to just see it and the interactivity actually makes this fun."

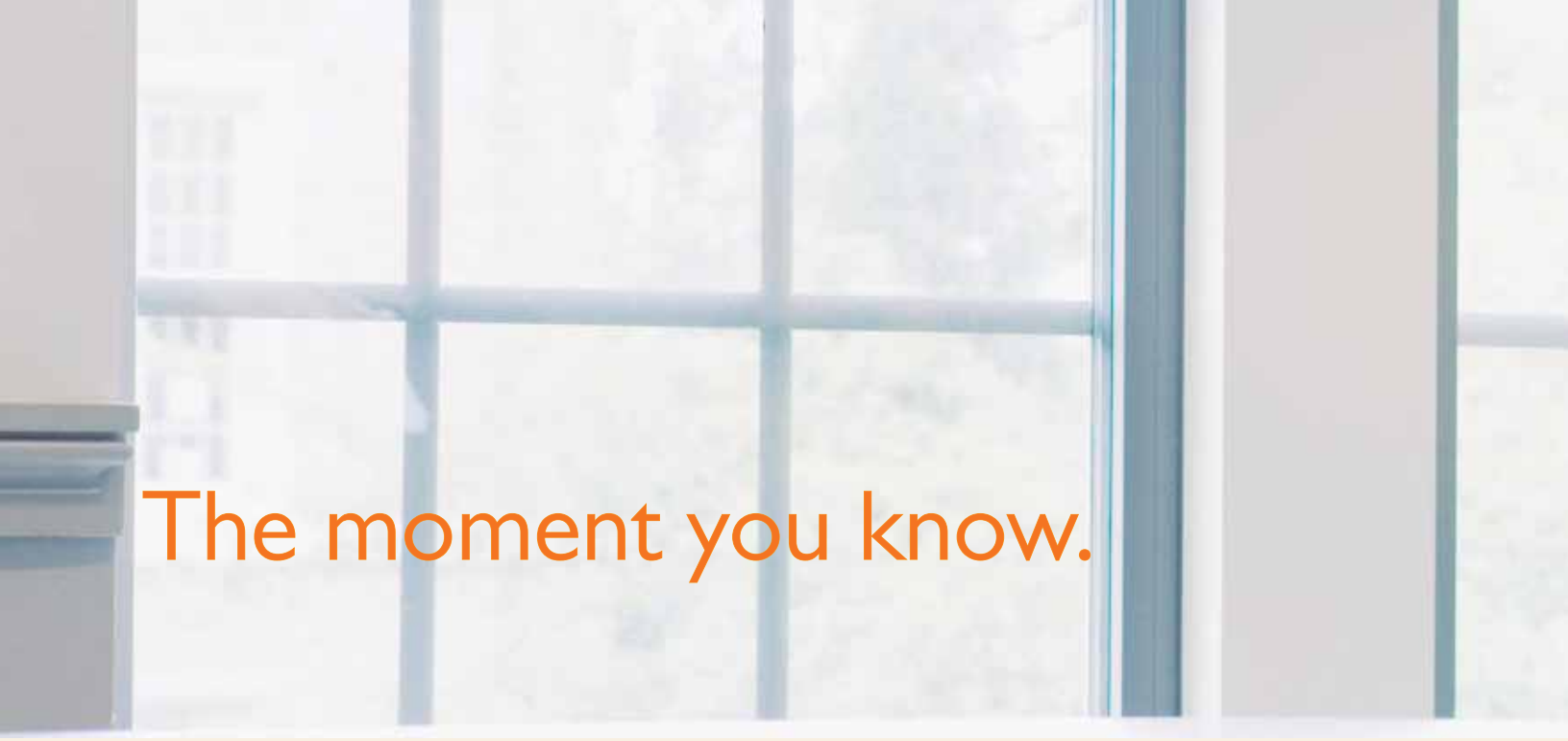
—Student, *University of California–Merced (CA)*

## MySpanishLab™

"MySpanishLab has taught me a basic understanding of Spanish, and has given me the ability to carry on a basic conversation in Spanish. I have already used the items learned in this course in my every day job as a Search and Rescue controller in the US Coast Guard. I have spoken with distressed mariners in Spanish, based on the material I have learned."

—Student, *Columbia Southern University (AL)*

# Table of Contents



# The moment you know.

Educators know it. Students know it. It's that inspired moment when something that was difficult to understand suddenly makes perfect sense. MyLab and Mastering from Pearson deliver customizable content and highly personalized study paths, responsive learning tools, and real-time evaluation and diagnostics—all to help educators create that moment of understanding with their students.

## Proven results

MyLab and Mastering from Pearson have consistently and positively impacted the quality of learning in higher education instruction in math, science, engineering, humanities, social sciences, world languages and business disciplines. MyLab and Mastering products can be successfully implemented in any environment—lab-based, hybrid, fully online/distance learning, traditional—and demonstrate the quantifiable difference that integrated usage of these products has on student retention, subsequent success, and overall achievement.

This report presents compelling evidence from 13 case studies, showing how MyLab and Mastering increase student learning and achievement. When educators require and integrate these products into their course, they and their students experience the highest success rates and return on investment. Based on these results, it is clear that partnering with Pearson is more than an educational advantage for instructors and students. It's a good business decision for institutions.

## Engaging experiences

MyLab and Mastering from Pearson consist of over 80 robust and accessible online products, designed to engage students in active learning. Surveys show that MyLab and Mastering's immediate feedback and tutorial assistance motivate students to do more homework, which means they retain more knowledge and improve their test scores.

The homework and practice exercises in MyLab and Mastering courses are correlated to the exercises in the textbook, and include guided solutions, sample problems, animations, videos, and eText clips for extra help at point-of-use. MyLab and Mastering courses also include a full eText that incorporates a variety of multimedia resources. Diagnostic tests or quizzes let students assess their understanding and receive a personalized study plan—or even a personalized homework assignment—providing interactive tutorial exercises for topics the student hasn't yet mastered. Exercises regenerate algorithmically to give students unlimited opportunity for practice and mastery.

## A trusted partner

Knowing that you are using a Pearson product means knowing that you are using quality content. Our eTexts are accurate, our assessment tools work, and our questions are error-free. Whether you are using a fully created course, our sample assignments, or completely customizing your course from the start, you can trust our content.

## Partner with Pearson

Learn firsthand how MyLab and Mastering can work for you and your students. Before making a commitment to adopt, find out how you can partner with Pearson on a case study or efficacy study.

Email Director of Faculty Programs Karen Mullane (Karen.Mullane@pearson.com) for more information.

# Rock Valley College — Rockford, IL

| | |
|---|---|
| **Product Used** | **MyMathLab** |
| **Course Name** | **Beginning Algebra** |
| **Credit Hours** | **Four (earned in two two-credit classes)** |

**KEY TAKE-AWAY**

By leveraging MyMathLab's item analysis and e-mail features to identify and reach out to at-risk students, RVC both increased its pass rate by nearly 50 percent and cut its withdrawal rate by more than half.

## Textbook in Use

*Algebra: A Combined Approach,* 3e, Elayn Martin-Gay

## Course Implementation

**Course Design**

Rock Valley College (RVC) redesigned its beginning algebra course from a traditional, one-semester, 5-credit course covering nine chapters to a 4-credit course divided into two 2-credit classes, each spanning eight weeks. The redesigned course is offered in both hybrid and traditional lecture formats.

Computer-assisted sections meet in a computer lab two days a week for 100 minutes at a time. Classes include 70–80 minutes of direct instruction (lecture) plus 20–30 minutes of hands-on, MyMathLab-enabled instruction facilitated by instructor support on a one-on-one basis.

**Assessments**

- In-class activities, participation, attendance — 40 points
- ~20 MyMathLab homework assignments of 3 points each — 60 points
- Three unit tests of 100 points each — 300 points
- A department-wide final exam — 100 points

**Use of MyMathLab**

A minimum of three MyMathLab homework assignments per week is required in all sections.

The developmental math coordinator creates MyMathLab coordinator courses for instructors to copy. Coordinator courses include a homework assignment for every section, a unit-test review assignment for each unit, and a final-exam practice assignment. In addition, each instructor receives a MyMathLab Gradebook preloaded with test and homework points in the appropriate amounts.

Instructors are encouraged to use the Item Analysis feature of the MyMathLab Gradebook to assess both individual and overall class mastery and needs.

Use of MyMathLab contributes approximately 12 percent to a student's final course grade.

## Results and Data

Required use of MyMathLab was one of several transformations in RVC's developmental math sequence. Although not the only positive change, Kathleen Almy, associate professor at RVC, considers it a significant contributor to the success of the new two-part curriculum via a more than 50 percent increase in the percentage of students receiving As, Bs, or Cs and a more than 50 percent decrease in the overall course withdrawal/fail rate.

"The quality of the class experience has changed," says Almy. "Students come with constructive questions. I'm able to move forward instead of constantly back over old material. Class time is more productive."

*MyMathLab has forever changed the way I teach. I have a more accurate picture of how individual students are doing and how the class as a whole is faring. Having a better idea of what they're having problems with helps me adjust my lessons to better support them—and helps me be a better teacher.*

*—Kathleen Almy, Associate Professor*
*Rock Valley College*

| Semester | Enrollment | Course Format | Percentage of Students Earning A, B, or C | Withdrawal/ Fail Rate |
|---|---|---|---|---|
| Fall 2009<br>Beg. Algebra, Part 2 | 335* | Redesign using consistent MML homework | **69.9** | **18.2%** |
| Fall 2009<br>Beg. Algebra, Part 1 | 568<br>(489 first time + 79 repeat) | Redesign using consistent MML homework | **68.8** | **22.4%** |
| Fall 2008 | 537 | 5-credit format + inconsistent use of MML | 48.2 | 40.8% |
| Fall 2007 | 589 | 5-credit format | 47.2 | 42.6% |

**Table 1. Comparison of Student Success and Withdrawal/Fail Rates before and after Redesign and Required MyMathLab Homework**

**Students who take the first eight weeks usually also take the second eight weeks. The 335 students enrolled in the second eight-week class of fall 2009 are a subset of the 568, who started out in the first eight-week class of fall 2009.*

## The Student Experience

Almy reports that significantly more students are doing the homework. Because they can redo assignments until they earn 100 percent, students spend more time on task.

The engaging, interactive nature of MyMathLab encourages students to persevere. "They do better when they see success more often," says Almy.

MyMathLab helps students keep up with assignments who otherwise juggle school and employment and who may miss a class. The online resource means that personal and employment stressors are less likely to result in students' falling behind in their schoolwork and dropping out.

## Conclusions

MyMathLab improves RVC's two-day, computer-assisted sections by (1) keeping students focused and engaged during the 100-minute course period and (2) providing a tool for assessments between classes. Students therefore don't lose momentum and the content remains fresh between classes.

From a departmental standpoint, MyMathLab has also enabled RVC's mathematics department to establish content and assessment consistency across all of its sections.

Based on the results of the MyMathLab-enabled redesign, the department plans to convert the new curriculum to a format in which MyMathLab is required for homework in all sections and to make as many of the two-days-a-week courses into a hybrid format as lab space will allow.

## University of Memphis, TN

Four Year • 10,000 to 20,000 Students • MyMathLab

In 2008, the University of Memphis (UM) Department of Mathematical Sciences implemented a new teaching method in several sections of College Algebra, Foundations of Mathematics, and Elementary Calculus. The primary motivation of the new teaching method was to address low retention and success rates in these large-enrollment, lower-division general education courses.

Called the Memphis Mathematics Method (MMM), the new method was developed according to National Center for Academic Transformation guidelines and incorporates the effective use of technology in the teaching of mathematics. The MMM closely follows the approach used by both Louisiana State University and the University of Alabama and is delivered via MyMathLab.

| Course/Student Type | Total | Traditional Method | MMM |
|---|---|---|---|
| College Algebra | 4,777 | 3,668 | 1,109 |
| *DSPM students* | | *157* | *1,010* |
| *Regular students* | | *3,511* | *99* |
| Foundations of Mathematics | 3,986 | 3,525 | 461 |
| *DSPM students* | | *264* | *115* |
| *Regular students* | | *3,261* | *346* |
| Elementary Calculus | 3,207 | 2,729 | 478 |
| *Regular students* | | *2,729* | *478* |

**Table 1. Pilot Enrollment by Course, Student Type, and Method**

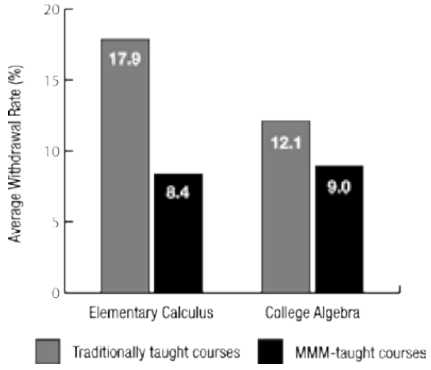



**Figure 1. Comparison of Withdrawal Rates in Traditionally Taught and MMM-Taught Elementary Calculus and College Algebra Courses**

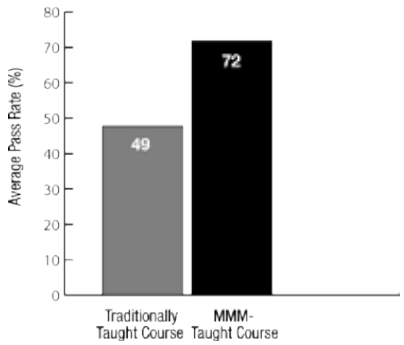



**Figure 2. Comparison of Pass Rates in All Three Traditionally Taught and MMM-Taught Courses**

### Study Methods

An MMM intervention was piloted at UM in spring 2008 in a specialized Developmental Studies Program in Mathematics (DSPM) College Algebra course, which combined a developmental Intermediate Algebra course with a regular College Algebra course. Students were eligible for the DSPM course only if their ACT scores would have required them to take remedial Intermediate Algebra. The university expanded MMM in 2008 to regular sections of College Algebra, regular and DSPM sections of Foundations of Mathematics, and regular sections of Elementary Calculus.

This study includes data from fall and spring semesters beginning with fall 2007 and through spring 2010. There were 11,970 enrollments in the sections across the three courses: 10,424 in regular sections, and 1,546 in DSPM sections. Passing and retention rates were used as measurements of success.

During every class session, University of Memphis students are required to solve problems in a laboratory environment: they listen to a 20-minute, instructor-led lecture that introduces basic concepts and spend the remaining 65 minutes of class solving MyMathLab problems. Students also complete proctored tests and the final exam in the instructional lab by using MyMathLab. Instructors control access to MyMathLab's multimedia learning tools on an assignment-by-assignment basis. And tutors are always available to answer questions.

### Results

An examination of the passing and retention rates in MMM and traditional classrooms indicates that overall, students in MMM classrooms withdrew less and performed better. Of the study's 11,970 enrolled students, 5,530 earned a passing grade, reflecting a combined 54 percent success rate for the three courses. Of the 11,970 enrollments, 1,596 withdrew from their courses.

*For every course, the withdrawal rate in the MMM classes was lower than that in the traditional classes.* For example, 17.9 percent of students in traditional Elementary Calculus withdrew, whereas only 8.4 percent withdrew from the equivalent MMM courses. In College Algebra, students in MMM classes dropped out at a rate of approximately 9 percent. The equivalent traditionally taught courses had dropout rates of 12.8 percent for regular students and 11.4 percent for DSPM students (an average of 12.1 percent). (See figure 1.)

*More students passed in MMM classes than in traditionally taught classes.* For example, approximately 49 percent of students in traditional courses passed, whereas about 72 percent passed when exposed to the MMM teaching methodology. (See figure 2.)

*Performance and dropout disparities between Black and White students were reduced in MMM-taught classes.* For example, across all three regular courses, Black students passed at a rate of 39.9 percent when taught using traditional pedagogy compared with a rate of 56.2 percent when taught using MMM. Also, in DSPM courses, Black students dropped out at a rate of 10 percent from the MMM-taught classes compared with a rate of 14 percent from those that were traditionally taught. (See figure 3.)

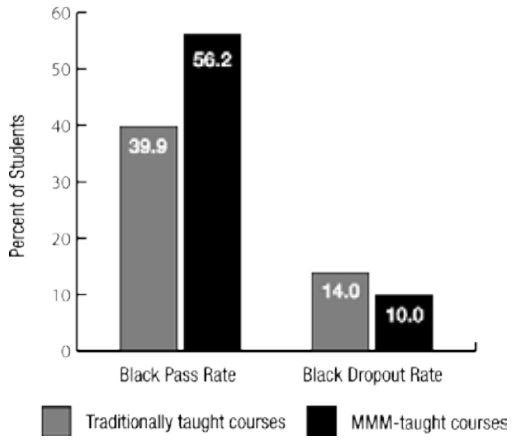



**Figure 3. Comparison of Pass and Dropout Rate Disparity between Blacks and Whites in Traditionally Taught and MMM-Taught Courses**

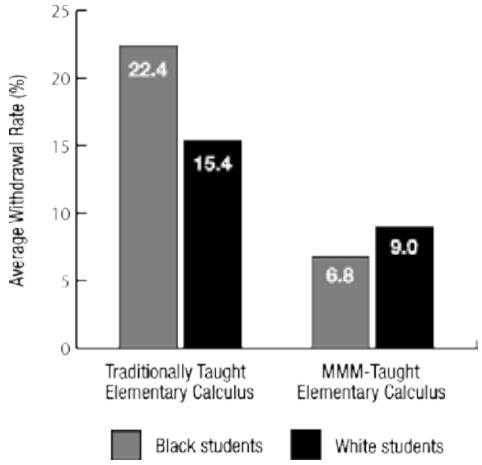



**Figure 4. Comparison of Withdrawal Rates for Black and White Students in Traditionally Taught and MMM-Taught Elementary Calculus Courses**

*Within each course, the pattern of improvement persisted.* For example, in traditional DSPM College Algebra, there was a 14.7 percent differential between Black and White students. In the equivalent MMM courses, the differential was 7.7 percent. In traditional Elementary Calculus, the racial disparity between Blacks and Whites was completely erased, with 75.7 percent of Black students and 68.9 percent of White students receiving passing grades.

*Racial withdrawal rate disparities decrease with the use of MMM.* In traditional Elementary Calculus, 22.4 percent of Black students dropped out compared with 15.4 percent of White students; in the MMM calculus courses, 6.8 percent of Blacks withdrew compared with 9 percent of Whites. (See figure 4.)

Regression results indicate that the MyMathLab-enabled MMM model was significantly effective in increasing the odds of student success in Elementary Calculus: students exposed to the MMM had 78 percent higher odds of succeeding than those in traditional classes had.

Similar to the regular students, Black DSPM students in College Algebra who were taught in MMM classes were more successful than Black students taught traditionally. Study data indicated a 45 percent increase in odds for success among Blacks taught with MMM.

*Race differentials persisted in comparisons of the probabilities of dropping out.* Black students in MyMathLab-enabled MMM College Algebra classes had 31 percent lower odds of dropping out compared with White students. The MMM model also showed positive and significant gains for students taking Calculus as well. Overall, Calculus students in the MMM had 48 percent lower odds of dropping out than traditionally taught students had.

**Conclusion**

Overall, the MyMathLab-enabled Memphis Mathematics Model resulted in increased success and decreased dropout rates for students in College Algebra, Foundations of Mathematics, and Elementary Calculus courses. The results point particularly to MMM as a vehicle for closing the achievement gap between Black and White students in Elementary Calculus. The positive results may be attributed to the structure and interactive nature of the MMM, which forces a daily involvement on the part of the student. This type of active engagement along with the use of technology is in line with reform pedagogy.

Overall, MMM resulted in increased success rates and decreased drop rates in College Algebra, Foundations of Mathematics, and Elementary Calculus. Because students were required to work problems using MyMathLab, they were able to benefit from the program's many learning tools, and they better grasped the subject matter.

From an institutional cost standpoint—after the initial start-up costs of computer labs—the MyMathLab-enabled MMM model distributes department resources more cost-effectively than does the traditional instruction model.

Undergraduate students may be employed as lab assistants; advanced graduate students may be employed as course instructors; and MyMathLab's automated grading system enables instructors to spend less time on administrative tasks and more time monitoring and guiding students through the learning process.

*Summarized by Michelle Speckler from "The Effectiveness of Blended Instruction in Postsecondary General Education Mathematics Courses," by Anna Bargagliotti, Fernanda Botelho, Jim Gleason, John Haddock, and Alistair Windsor.*

# Jackson State Community College — Jackson, TN

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

**KEY TAKE-AWAY**

By using MyMathLabPlus in a lab-based redesign model, JSCC addresses developmental math issues, including low success rates and institutional cost. Modularization of content enables the college to accommodate varied levels of preparedness and learning styles.

## Textbook in Use

*Developmental Mathematics,* custom edition for Jackson State Community College, Marvin L. Bittinger, David J. Ellenbogen

## 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 also seek individual assistance from the instructor or with tutors at the SMART Math Center. Tutors are either retired teaching professionals or peer tutors who have passed College Algebra with at least a B and who have completed tutor training.

Student mastery of each module must be demonstrated before moving to the next. The number of modules required varies based on each student's educational and career goals.

**Assessments**
Students must complete a minimum of four modules per semester until the required modules for their majors are completed. A student's final grade is the average grade of the modules that have been mastered.

| | |
|---|---|
| 5 percent | Attendance |
| 10 percent | Guided-studies assignment<br>*A combination of MyMathLabPlus problems and written work from the text. Students must score at least 80 percent to receive credit.* |
| 15 percent | Homework<br>*Completed on MyMathLabPlus. Students must score at least 80 percent to receive credit.* |
| 70 percent | Test<br>*Completed on MyMathLabPlus, proctored, in the math center. Students must score at least 75 percent to advance to the next module.* |

**Use of MyMathLabPlus**
MyMathLabPlus is used for placement, homework, and tests. The Study Plan is assigned to students who fail 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

The data at right illustrates that across all metrics, JSCC's SMART Math redesign with MyMathLabPlus is a success.

- The percentage of As and Bs more than doubled.
- The fail/withdrawal rate decreased dramatically—by approximately 40 percent.
- Completion rates increased by 51 percent.
- Retention increased by 13.5 percent.

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.

| Grade | Traditional Format Spring 2008 | Redesign Pilot Phase 1 Spring 2008 | Redesign Pilot Phase 2 Fall 2008 | Redesign Pilot Phase 3 Spring 2009 | SMART Math Format Fall 2009 |
|---|---|---|---|---|---|
| A | 8.18% | 8.71% | 11.83% | 15.37% | 17.52% |
| B | 14.55% | 26.40% | 35.30% | 33.58% | 38.52% |
| C | 18.64% | 18.82% | 9.56% | 9.56% | 3.93% |
| Progress* | 13.63% | 12.36% | 13.92% | 13.28% | 12.99% |
| Fail (attended class) | 18.64% | 4.22% | 7.73% | 11.34% | 10.80% |
| Fail (stopped attending) | 18.64% | 23.31% | 7.03% | 4.93% | 11.33% |
| Withdrawal | 7.72% | 6.18% | 14.63% | 11.94% | 4.91% |

**Table 1. Grade Distribution, Fail, and Withdrawal Rates before, during, and after SMART Math Redesign with MyMathLabPlus** (*n*=3,281)

**Signifies that the student successfully completed two modules of the required four.*
*Note: Spring 2008–Spring 2009 data represents a sample of the enrolled students; fall 2009 data includes all enrolled students.*

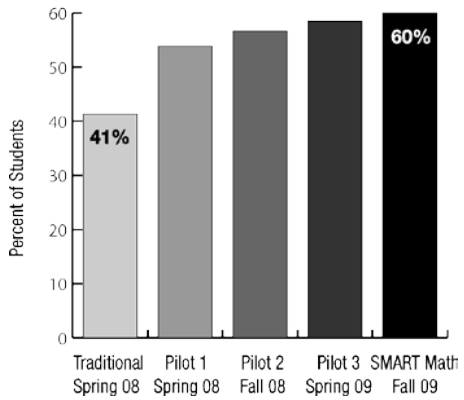



**Figure 1. Pass Rates (A, B, or C) before, during, and after SMART Math Redesign with MyMathLabPlus** (*n*=3,281)

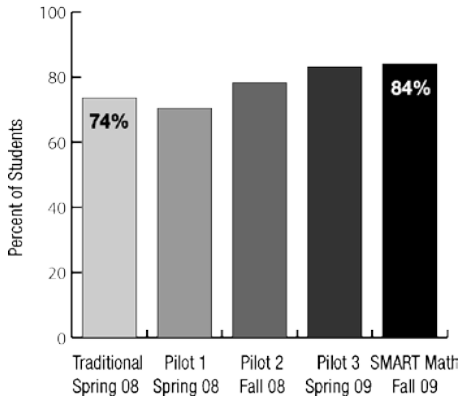



**Figure 2. Retention Rates before, during, and after SMART Math Redesign with MyMathLabPlus** (*n*=3,281)

## 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. "The self-esteem of these students is soaring."

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.

In addition, an institutional cost savings of more than 20 percent was accomplished by increasing class sizes from 24 to 30 students, reducing the total number of sections by 28 percent, allowing early exit, and utilizing more adjunct faculty and tutors.

JSCC is 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*

# Score Gains

Score improvements in the formative and the summative assessment stages represent an important indicator of the effects of an educational intervention. The assignment of Mastering homework shows that students were positively affected by its use in improved quiz and final exam scores.[1]

## Study 1. MasteringChemistry

### General Chemistry, Fall 2008
### University at Buffalo, State University of New York

Study design: In the years 2004–07 online homework was not used in General Chemistry courses. In fall 2008 MasteringChemistry was introduced for credit for online homework in the course. Historical comparisons were feasible since the course coverage and instructional components were comparable over the years. Fall semester final exam scores for the years 2004, 2005, 2007 (without MasteringChemistry), and 2008 (with MasteringChemistry) were compared for students who completed the course within a given semester.[2] The number of students in the course in a given year ranged from 912 to 1,125.

Results: Students who used MasteringChemistry in fall 2008 showed an improvement of 0.5 in effect size in the final exam in comparison to the years 2004, 2005, and 2007, in which MasteringChemistry was not used. The average student who used MasteringChemistry in 2008 is at the 69th percentile. In terms of percentile points, there is a 19-percentile-point improvement in the final exam score, on average, when students were assigned homework in MasteringChemistry.[3]

More remarkably, students at each of the (score) quartiles (25th, 50th, and 75th percentiles) were positively affected by the use of MasteringChemistry in fall 2008 relative to the previous years. In particular, the probability that a student at the 25th percentile of the class would obtain a final exam score of 50 or above is 81%. That probability is less than 50% in the previous years (42% in 2004, 26% in 2005, and 17% in 2007) in which MasteringChemistry was not used.

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*[1]The studies documented are observational in nature as opposed to randomized controlled experiments, and thus attention has been paid to possible confounding factors in drawing conclusions.*

*[2]The difficulty levels of the final exams across the years were assumed to be comparable. This is a reasonable assumption though it cannot be rigorously proven. The fall 2006 final exam scores were lower by about 0.6 standard deviations compared with the other nonMasteringChemistry years 2004, 2005, and 2007, and hence are not included in the analysis. According to the instructor, this may be due to an ice storm that hit the campus area on the day of the first exam, which led to its cancelation. This also deprived students from study for about two weeks. Though the ice storm did not occur during the final exam, it may have had a ripple effect as reflected in the low final exam scores. The lower scores in 2006 may further support the argument that the final exams had comparable difficulties, since an easier exam to "compensate" for the ice storm would not have resulted in such a decrease.*

*[3]It is difficult to adjust the observed effect size (0.5) for individual teacher influences in 2008 over and above teacher effects for the years 2004, 2005, and 2007. According to some research findings an effect size of about 0.2 is attributable to the teacher in a traditional classroom setting, while various other teacher influences such as reinforcement, peer tutoring, class environment, and questioning would result in an average effect size of about 0.4 (Ref: Influences on student learning, J. Hattie, Inaugural Professional Lecture, University of Auckland). Thus, if the latter teaching methodologies were employed in 2008 in addition to the traditional settings in the previous years the teacher effect would account for 0.2 of the observed effect size. The resulting effect size attributable to MasteringChemistry would then be about 0.3, which would place the average student at the 62nd percentile.*

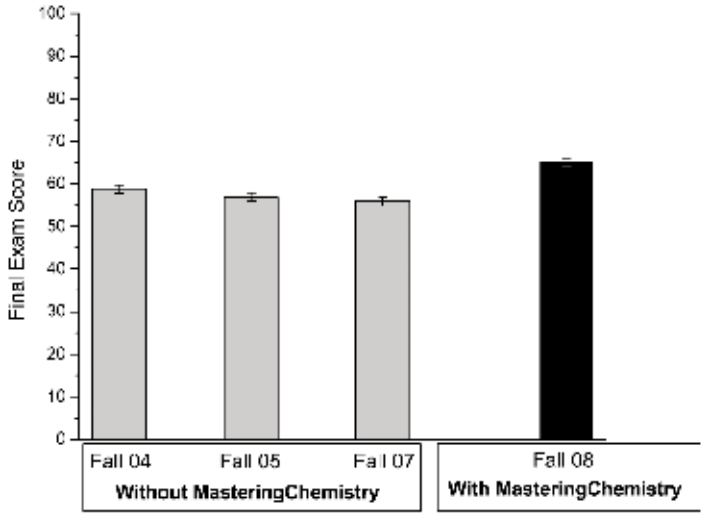


Figure 1. The final exam score (historical) comparisons of students who did not use MasteringChemistry in the years 2004, 2005, and 2007 to students who used MasteringChemistry in 2008. The errors shown are the 95% confidence interval of the standard error of the mean. The final exam scores are scaled to a maximum of 100%.

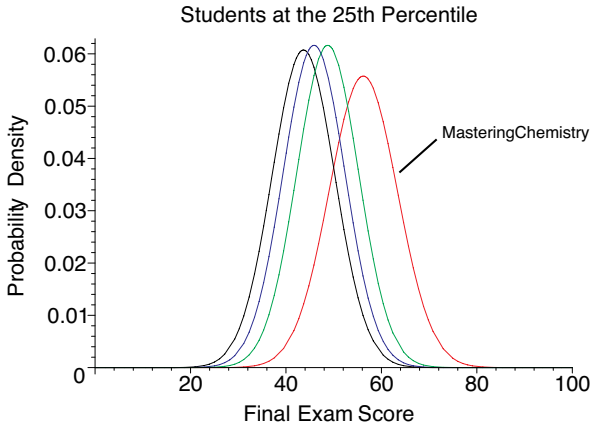


Figure 2. The final exam score (probability) distributions for a student at the 25th percentile. The probability that a student at the 25th percentile of the MasteringChemistry class in 2008 would obtain a score of 50 or above is 81%. That probability is less than 50% in the previous years (42% in 2004, 26% in 2005, and 17% in 2007) in which MasteringChemistry was not used. Graph legend: Green (2004), Blue (2005), Black (2007), Red (2008, with MasteringChemistry).

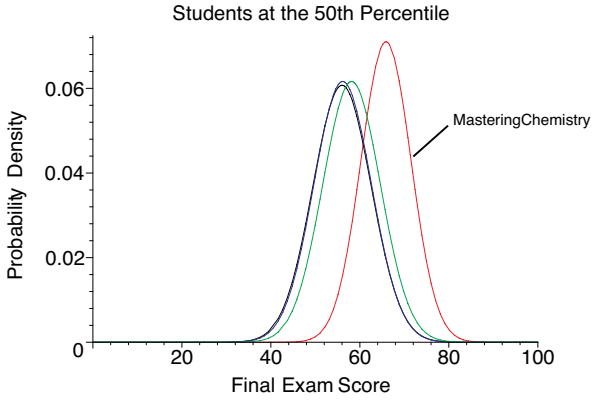


Figure 3. The final exam score (probability) distributions for a student at the 50th percentile. The probability that a student at the 50th percentile of the MasteringChemistry class in 2008 would obtain a score of 70 or above is 23%. That probability is less than 10% in the previous years (3% in 2004, 2% in 2005, and 2% in 2007) in which MasteringChemistry was not used. Graph legend: Green (2004), Blue (2005), Black (2007), Red (2008, with MasteringChemistry).

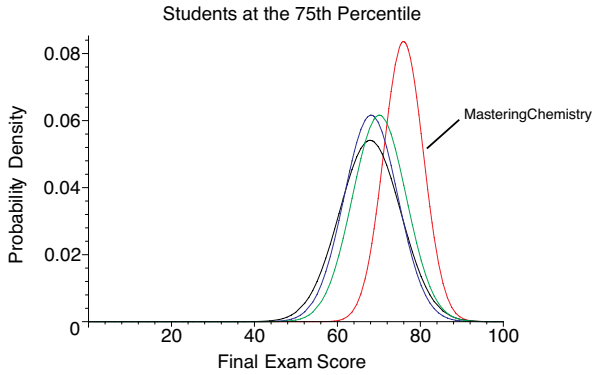


Figure 4. The final exam score (probability) distributions for a student at the 75th percentile. The probability that a student at the 75th percentile of the MasteringChemistry class in 2008 would obtain a score of 85 or above is 3%. That probability is three times as less in the previous years (1% in 2004, 0.5% in 2005, and 1% in 2007) in which MasteringChemistry was not used. Graph legend: Green (2004), Blue (2005), Black (2007), Red (2008, with MasteringChemistry).

## Summary

The use of MasteringChemistry in the General Chemistry course in fall 2008 resulted in 0.5 effect size score gains in the final exam. Thus, the average student who used MasteringChemistry can be placed at the 69th percentile in relation to the previous years' score distributions in which MasteringChemistry was not used. Though an observational study, the attribution of score improvements to MasteringChemistry is supported by the observation that the final exam score distributions (mean and variance) remained stable in the years 2004, 2005, and 2007 in which MasteringChemistry was not used. Students at each score quartile were positively affected by the use of MasteringChemistry. For example, the probability that a student at the 25th percentile of the class would earn a final exam score of 50 or above is 81%. That probability is less than 50% in the previous years in which MasteringChemistry was not used. Thus, students who were less skillful or were at risk of failing the course were positively affected by the use of MasteringChemistry. Similarly, a student at the 75th percentile who has used MasteringChemistry has three times as much chance of scoring above 85 than a student at the same percentile level who did not use MasteringChemistry.

## Study 2. MasteringBiology

### Introductory Biology, Fall 2008
### Monash University, Victoria, Australia

**Study design:** In 2008 students were assigned weekly MasteringBiology homework consisting of tutorials, multiple-choice questions, and selected readings in preparation for the lecture. A 15-minute open-book quiz was then given in Blackboard™ within 36 hours of the lecture. The quiz scores were compared with the year 2007, in which MasteringBiology had not been used in a similar course with the same instructor. Sequence, quiz length, question types and degree of difficulty, and time allowed for a quiz were kept the same in 2008 with MasteringBiology to allow for a fair comparison with 2007 in which MasteringBiology was not used. The final exams in both years were identical; students repeating the course were not included. Furthermore, entering students did not differ in any substantial way as judged by the university's entrance rankings (75.1 in 2007 as opposed to 75.0 in 2008). The number of students in the course for each year is on the order of 600.

**Results:** In all of the 12 weekly quizzes, students who used MasteringBiology in 2008 outperformed those who did not use it in the previous year. The average quiz score gain was 6.4 ± 3.3 (95% confidence interval). Students who used MasteringBiology placed at the 62nd percentile on average in the final exam, which corresponds to an effect size of 0.3.

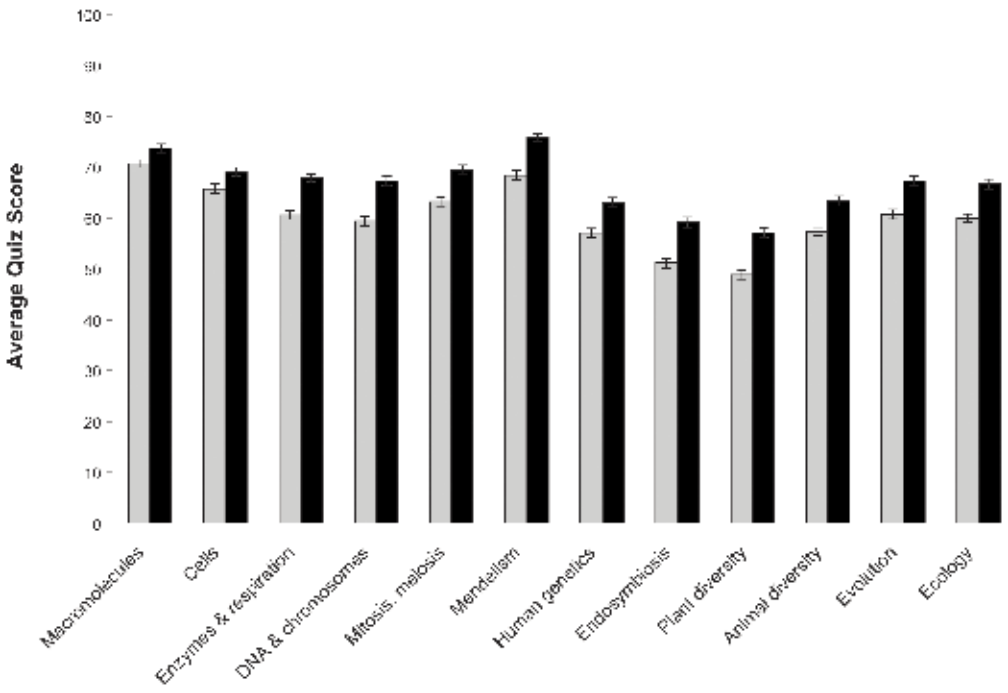


Figure 5. The weekly average quiz score comparison for students who did (black) and did not (gray) use MasteringBiology in the years 2008 and 2007, respectively.

## Summary

The consistency in score gains for students who used MasteringBiology in comparison to those who did not—across all of the quizzes and hence, across many concept domains in biology—is an educationally significant result. (For more details, see G. Rayner, Evaluation and student perception of MasteringBiology as a learning and formative assessment tool in a first year Biology subject, Proceedings of the 2008 Australian Technology Network Assessment Conference.)

## Study 3. MasteringEngineering

### Statics, Fall 2009

### Colorado School of Mines

**Study design:** Prior to 2009, MasteringEngineering was not used in the Statics course. In fall 2009, MasteringEngineering and Hibbeler's *Statics* textbook were required for credit for online homework. Historical comparisons are feasible, since the course was taught by the same instructor with the same course goals and using the same final exam.

**Results:** Students who used MasteringEngineering in fall 2009 showed an improvement on the final exam when compared with students in fall 2008, when MasteringEngineering was not used.

Statics is a gateway course, covering the basics for many engineering courses. As such, each week's content builds upon the previous week's. Homework and quizzes keep students on task. In both semesters, students were assigned homework. In 2008, homework was collected for student graders to mark, and students were given in-class quizzes. Since the final exam was not returned to the students, the same final was used for comparing the 2008 and 2009 results. Researchers also compared midterm exam scores. The three midterm exams were not identical but covered the same material at the same level.

A total of 64 students took Statics in 2008 (without MasteringEngineering); a total of 69 students took the course in 2009 (with MasteringEngineering). The two types of effect size values were computed as a measure of distance between the two different distributions in this study—the distance between the 2008 midterm and the 2009 midterm, the distance between the 2008 final exam and the 2009 final exam, and the distance between Pretest in 2009 (before MasteringEngineering) and Posttest in 2009 (after MasteringEngineering). Each of those measures of distance can be regarded as a measure of difference between two different distributions, in which a high effect size value indicates a big difference between the distributions. For Cohen's *d,* an effect size of 0.2 to 0.3 is considered a small effect, about 0.5 a medium effect, and 0.8 to infinity a large effect. The two types of effect size are defined as follows.

Effect Size 1:

$$Cohen's\ d = \frac{\overline{X}_2 - \overline{X}_1}{S},$$

$$S = \sqrt{\frac{(n_1 - 1)S_1^2 + (n_2 - 1)S_2^2}{n_1 + n_2}},$$

$$S_1^2 = \frac{1}{n_1 - 1}\sum_{i=1}^{n_1}(X_{1i} - \overline{X}_1)^2,$$

where

$\overline{X}_1$: Sample mean for Group 1,

$\overline{X}_2$: Sample mean for Group 2,

$S_1^2$: Sample variance for Group 1,

$S_2^2$: Sample variance for Group 2,

$n_1$: Sample size for Group 1,

$n_2$: Sample size for Group.

| Effect Size | Midterm | Final |
|---|---|---|
| Effect Size 1 | 1.0 | 0.7 |
| Standard Error | 0.2 | 0.2 |

Table 1. Two types of effect size values with standard errors for each test.

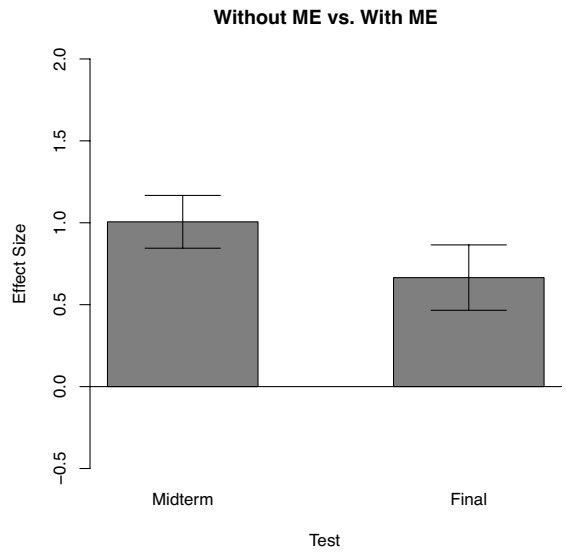


Figure 1. Effect sizes of combined midterms and final exam.

Hence there was a large effect size for the collected midterms, and a medium effect size for the same final exam (see figure 1).

For the group without MasteringEngineering, the mean scores of midterm and final exams were 72% (*standard deviation* = 0.11) and 70% (*SD* = 0.16), respectively. In general, the mean scores for the group with MasteringEngineering were higher than those for the group without MasteringEngineering. The mean scores were 81% (*SD* = 0.09) for the midterm and 79% (*SD* = 0.08) for the final exam (see table 1).

Figure 2 illustrates that exam scores without MasteringEngineering are lower than those with MasteringEngineering.

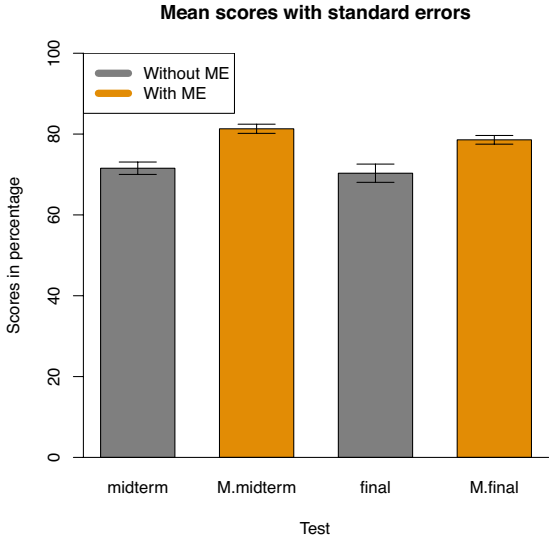


Figure 2. Mean scores of midterm and final exams with standard errors, academic years 2008 and 2009 (M.midterm and M.final are with MasteringEngineering).

The distributions of exam scores for each test from groups using MasteringEngineering and groups not using MasteringEngineering are illustrated in figures 3 and 4. The distributions without MasteringEngineering (figure 4) are left skewed (dragging the mean scores down toward left) compared with the distributions with MasteringEngineering (figure 3). That using MasteringEngineering shifted the mean scores of the midterm and the final exams from the left (lower mean scores) to the right (higher mean scores) indicates improvement in the test scores.

# MyPsychLab™ CASE STUDIES

## DAKOTA STATE UNIVERSITY

DAKOTA STATE dSU UNIVERSITY

*"Combining the extensive test bank of questions with the previously mentioned activities, I believe that MyPsychLab leads to the practice of* ***higher level thinking skills*** *such as analysis, synthesis, evaluation, and creation. MyPsychLab's online activities give students the kind of knowledge they expect will* ***add to their learning experience.***"

*— Dr. Mydland*

### Satisfying University Mandates while Enriching the Learning Experience

Situated in downtown Madison, South Dakota, Dakota State University (DSU) is clearly a progressive institution. With a campus-wide wireless network the university website states its dedication to "The latest thinking, teaching and technology for students. A Tablet PC for all full-time students." About 2,250 students attend DSU and approximately 350 take psychology each year.

Assistant Professor Gabe Mydland has been teaching at DSU for 12 years. Consistent with the university's above-stated mandate, about five years ago Dr. Mydland adopted MyPsychLab. Influencing this decision was his desire to supplement the course textbook with content which would enrich students' learning experience by allowing them to access simulations, videos, and other educational activities.

As a testimony to the success that his students have enjoyed as a result of implementing MyPsychLab into the curriculum, Dr. Mydland states, "There is plenty of content to keep even the most ambitious student busy." Dr. Mydland goes on to state that MyPsychLab provides many opportunities to learn outside of the classroom by engaging students with activities related to the course content. When asked how Dr. Mydland validates his assessment of the program: "Regardless of their performance in the class, students tell me that they like MyPsychLab and enjoy using it. You don't often hear that from students who don't get the grade that they expected, which I think is a pretty strong endorsement."

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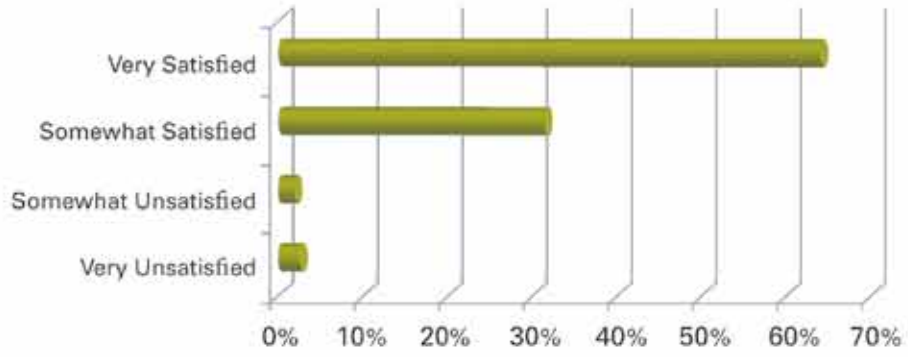
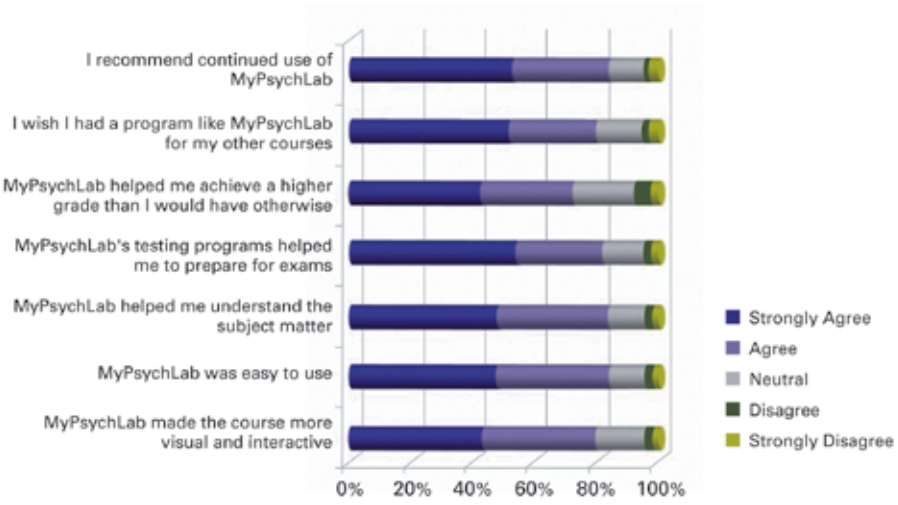
To measure the overall level of satisfaction with MyPsychLab, Pearson Education surveyed 768 students (Figure 1). From a population of 768 responses, more than 96% of students reported that they were satisfied with their MyPsychLab experience.

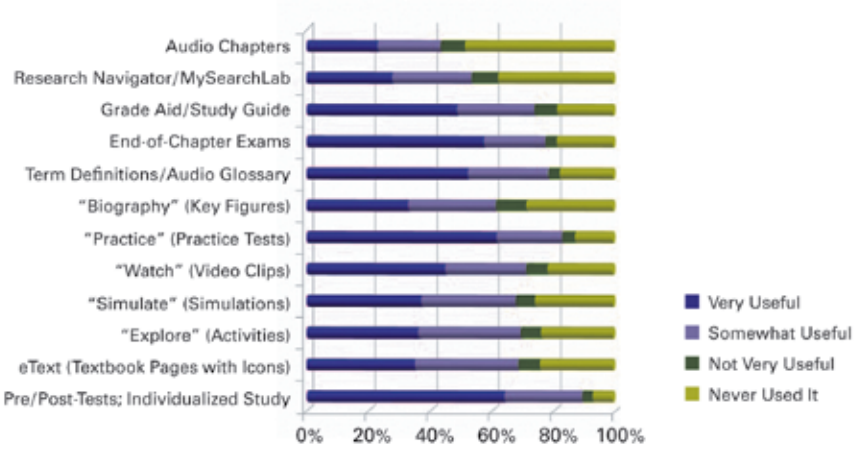
***What was your overall level of satisfaction with MyPsychLab?***



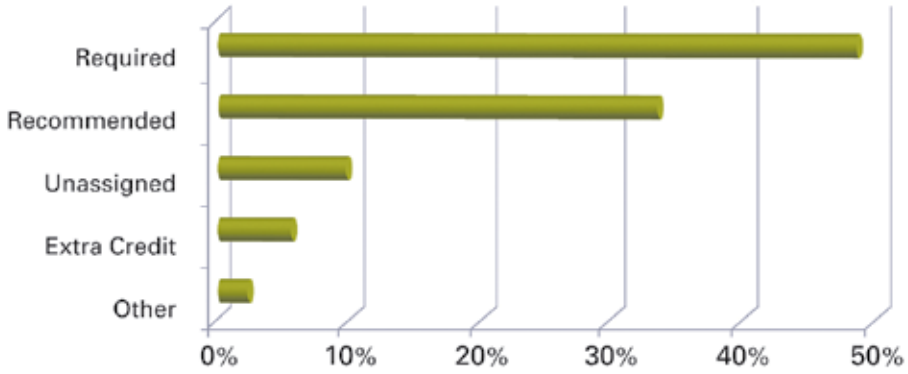
***Indicate if you agree or disagree.***




***How useful were the following MyPsychLab features?***




***How was MyPsychLab assigned by your instructor?***



PEARSON mysklllslab

CASE STUDY

2010 IMS Learning Award

# San Diego City College
## San Diego, California

**INSTRUCTORS** Professor Gavin Brown and Professor Christopher Baron

**COURSE** English 12 Basic English Review

**TEXT** English Simplified, 12/e *by Blanche Ellsworth and John A. Higgins with MySkillsLab*

**TERMS COVERED** Spring 2009-Spring 2010

**CONTRIBUTION OF MYSKILLSLAB TO FINAL GRADE** 100%

**TYPES OF DATA REPORTED** Improvement in final course grades
Improvement in standardized test scores
Improvement in drop/fail/withdraw (retention) rates over previous semesters

**COURSE STRUCTURE** Hybrid: lecture/lab

EQUIPPED WITH A 30-STATION COMPUTER LAB within the San Diego Community College English Center and aware of area high school students' need for basic skills strengthening, professors Gavin Brown and Chris Baron incorporated the Early College High School program and launched it in early 2009. The program was initiated by the Gates Foundation in the form of a grant to San Diego City College, San Diego High School, and San Diego Early Middle College. The grant focuses on college course taking and college readiness for high school students. English 12 is one of the core offerings of the program and admits area high school students to SDCC for a multiple-term refresher course in reading, writing, and critical thinking skills designed to raise students' proficiency, college readiness skills, and to help them achieve higher scores in the required California High School Exit Exam (CAHSEE) and other standardized tests like the SAT. Baron and Brown had both used Pearson English MyLabs with positive results and chose to develop the new course using MySkillsLab as the primary curriculum.

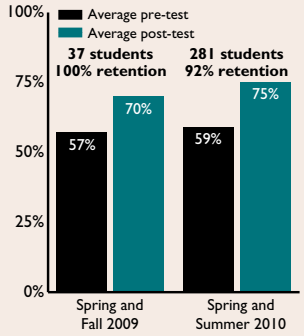
"We chose MySkillsLab because it offered a versatile platform that we could cater to individual and class needs," says Professor Gavin Brown. "Our primary goal was to give high school students the benefits of a college course while also providing a platform that would assist in their preparations for mandatory state examinations. While our initial focus was on helping high school students, we have extended the course to college students as well."

MySkillsLab forms the core curriculum for a self-paced course. Students take the pre-test diagnostic and then pursue the individualized study plan created for them by MySkillsLab. After completing the designated activities, students take the post-test diagnostic to assess their retention and mastery. As students progress, they move beyond sentence-level work to focus on paragraph and essay writing.

## Teaching with MySkillsLab

"One of the clearest benefits of MySkillsLab," insists Baron, "is the initial diagnostic that gives us an immediate and clear understanding of students' individual knowledge and needs. MySkillsLab enables us to target our teaching from day one of the term, delivering exactly the help that each student requires. We use MySkillsLab as a core part of our curriculum in English 12 for every level of student in courses all across the curriculum."

### Student performance improvement with MySkillsLab




### ANALYSIS

Students using MySkillsLab are demonstrating significant skills gains and retention, improved final course scores, and improved passing rates with superb retention rates.

"MySkillsLab **has helped** some Basic Skills students to re-enter a regular course of study. And, we are seeing high school students who were at risk of failure able to **pass the CAHSEE** thanks to MySkillsLab."

***—Professor Christopher Baron***

Brown adds, "Because we do not use MySkillsLab in a traditional lecture setting, it allows me greater flexibility to meet with students on an individual basis and deliver precisely the instructional assistance they need. Our goal with MySkillsLab is to focus on acceleration in basic skills courses, minimize the time our students spend in lower-level basic skills courses, and help students move swiftly to transfer-level courses."

## Learning with MySkillsLab

Brown and Baron report that students find MySkillsLab very user-friendly. Even students with negligible technology experience are quickly acclimated and motivated to explore the program independently.

MySkillsLab supports a range of learning styles. "Students often mention how the self-paced programming and the video tutorials have helped them better understand the material both in the program and in their other classes," asserts Brown.

Both Baron and Brown insist that MySkillsLab fosters collaboration among students and that this collaboration helps develop essential interpersonal skills. Brown says, "I have noticed, especially in the high school students I work with, that MySkillsLab allows for a greater opportunity for students to work together and help each other."

### RESULTS

Professor Brown says, "MySkillsLab counts for 100% of a student's final grade. Currently, in evaluating the successful completion of the course, we are looking at the correlation between the pre-test diagnostic, the successful completion of the course work assigned in the study plan, and the skills retention rates shown in the post-test diagnostic. We are definitely seeing an improvement in test scores with MySkillsLab." Professor Baron adds, "MySkillsLab has helped some Basic Skills students to re-enter a regular course of study. And, we are seeing high school students who were at risk of failure able to pass the CAHSEE thanks to MySkillsLab."

### FUTURE

The success of the MySkillsLab program at SDCC is fueling plans for wider use. While the initial goal was to assist high school students, the MySkillsLab-based refresher course continues to evolve and support expanding populations of students at SDCC. Now serving both high school and college students, Professor Brown is offering more sections of English 12, customizing the MySkillsLab curriculum to address students' needs for basic, advanced, or critical thinking skills support. Additionally, Baron and Brown are in talks with several SDCC academic departments about potentially offering more contextualized learning using MySkillsLab-based refresher courses specifically designed to support students in curriculum areas like nursing and other career tech programs.

Professor Brown says, "We continue to evolve the program to best meet the needs of our high school and college students. We feel there is great potential with MySkillsLab, and we are already seeing success among our students. MySkillsLab has been a positive experience, and we are excited to expand our use of the program and record greater student performance improvements."

myspanishlab ¡Hola!

**CASE STUDY**

# Lehigh Carbon Community College

## Schnecksville, Pennsylvania

**INSTRUCTOR** Professor Charles Hernando Molano Álvarez

**COURSES** Elementary Spanish I and II

**TEXT** ¡Arriba!, 5/e, *by Eduardo Zayas-Bazán, Susan M. Bacon, and Holly Nibert with MySpanishLab*

**TERMS COVERED** Fall 2008-Fall 2010

**CONTRIBUTION OF MYSPANISHLAB TO FINAL GRADE** 100%

**TYPES OF DATA REPORTED** Improvement in final course grades
Improvement in test averages over past semesters
Improvement in pass rates over past semesters

**COURSE STRUCTURE** Online

PROFESSOR CHARLES H. MOLANO'S STUDENTS are approximately 80% traditional students entering college after graduating from high school and approximately 20% returning adults. Professor Molano and his colleagues at Lehigh Carbon Community College recognized several years ago that offering online courses would enable them to more effectively meet the needs of a diversifying student population. After seeing MySpanishLab demonstrated at ACTFL, Professor Molano adopted MySpanishLab for his introductory and intermediate

> "With MySpanishLab, we have more time for the most important part of teaching which is interacting with our students."
>
> ***—Professor Charles Molano***

Spanish courses. In 2008, Professor Molano introduced MySpanishLab first in his traditional lecture courses and then in fully online courses. The response has exceeded his expectations.

"Not only are we able to serve many more Lehigh Carbon students whose schedules make it impossible to attend traditional on-site courses," says Professor Molano, "but our online courses are now populated in large numbers by students from other colleges and universities. These students want to advance faster in their degrees by fulfilling course requirements online and then transferring the credits to their home institutions."

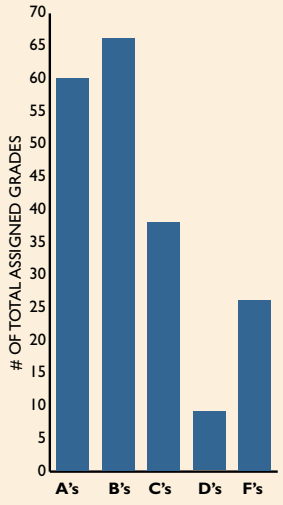
### TEACHING WITH MYSPANISHLAB

Professor Molano and his colleagues embraced the opportunity to teach with MySpanishLab and found that becoming proficient with MySpanishLab was simple and rewarding. Molano asserts, "Once the initial course setup is complete, teaching with MySpanishLab is so easy. MySpanishLab automates the functions, like grading, that take so much time to perform manually. My fellow instructors and I are grateful to MySpanishLab for relieving the administrative burden and thus returning us to teaching. With MySpanishLab, we have more time for the most important part of teaching which is interacting with our students.

"Students who complete the assignments in MySpanishLab are practically guaranteed success," says Molano. "As I monitor students' progress week to week in my courses,

**Student final grade results with MySpanishLab**

Fall 2008-Fall 2010




### ANALYSIS

Of 199 students who completed the course using MySpanishLab, 82% passed with a C or better.

### CONCLUSION

Professor Molano reports that students' final grades have increased by 17% since introducing MySpanishLab, a dramatic performance improvement.

"It's been a **pleasure to introduce** MySpanishLab to students. Some of our returning **adult students** without much technology experience are **initially wary** but once they are introduced to MySpanishLab, they **just love it!"**

***—Professor Charles Molano***

the correlation is very clear: students who spend the time and complete their work in MySpanishLab succeed in the course."

## LEARNING WITH MYSPANISHLAB

"It's been a pleasure to introduce MySpanishLab to students," says Molano. "Some of our returning adult students without much technology experience are initially wary but once they are introduced to MySpanishLab, they just love it!"

Students are amazed at the depth of the resources in MySpanishLab and at the immediacy of the assistance they receive. Molano says, "Students are just amazed at the instant feedback they receive from MySpanishLab—they feel as though they've been given a personal tutor. Students love the recording aspect of MySpanishLab which allows them to listen to their own pronunciations, compare, and adjust to match the native speakers. Students report that they uncover something new and fascinating each time they work with MySpanishLab. Student response to MySpanishLab has been uniformly positive. As instructors, we are thrilled to offer students a learning experience which is both effective and highly motivational."

> "The MySpanishLab tutorials are particularly effective at preparing students for active communication."
>
> ***—Professor Charles Molano***

Molano reports that students' communicative skills have improved significantly with MySpanishLab. "The tutorials in MySpanishLab are particularly effective at preparing students for active communication. I see the evidence in the oral exercises and in the midterm and final oral exams. Students are confident that they can deliver their ideas orally. This is a substantial improvement."

## CONCLUSION

Professor Molano reports that students' final grades have increased by 17% since introducing MySpanishLab, a dramatic performance improvement.

Professor Molano insists that MySpanishLab gives students a learning advantage that lasts beyond the end of the term. "We look at the progress of our current students and can clearly see the correlation between use of MySpanishLab and learning success. I am currently teaching intermediate Spanish to students who used MySpanishLab in introductory Spanish. I am very confident that MySpanishLab has prepared these students to perform and succeed as they advance through the curriculum."

# Western Michigan University

**Course Name** Principles of Microeconomics
**Credit Hours** Three
**Semesters Covered** Spring 2007–Fall 2007
**Types of Data Reported** Correlation of Final Grades and Time Spent on Task

## Textbook in Use with MyEconLab

*Microeconomics,* 2e, 2006, Hubbard and O'Brien

## MyEconLab Course Structure

**Course Design**
Principles of Microeconomics is a semester-long, on-campus, lecture-format course. Classes comprise more than 200 students and meet two days a week for 75 minutes per session. There are no discussion sessions.

Students are required to complete one MyEconLab homework assignment for approximately every week in which they do not have an exam. Homework is assigned at the end of discussion of the chapter; students have approximately one week to complete it.

**Assessments**
Students must complete a practice quiz and earn a minimum score of 70 percent before attempting the weekly homework assignment. Multiple attempts to pass the quiz are allowed.

Students can earn a total of 600 points:

| | |
|---|---|
| 300 points | Three exams *(two midterms, one final)* |
| 100 points | Two in-class quizzes |
| 200 points | Eight MyEconLab homework assignments |

**MyEconLab Implementation**
Homework is completed in MyEconLab and consists of 25 to 35 multiple-choice questions. When appropriate, homework questions take advantage of the MyEconLab graphing capabilities. All MyEconLab support tools—including E-text, Guided Solutions, and E-mail the Instructor—are allowed. Use of the Study Plan is encouraged but not required.

Off-line quiz and test scores are entered into MyEconLab. This ensures easy, centralized access to all student scores.

**Contribution of MyEconLab to Final Grade**
Use of MyEconLab contributes 33 percent of the final course grade.

## MyEconLab Course Results

MyEconLab usage increased from one semester to the next. Student end-of-course reviews suggest that the increase was due in part to student word of mouth about the program.

Data in Table 1 indicates a clear correlation between time spent on MyEconLab and exam scores. By combining exam scores for both classes and time spent on the program for both classes, one can see that of those students whose score decreased one letter grade or more from exam 1 to exam 2, 64 percent spent less time on the program before exam 2 than they did before exam 1. Of those students whose score decreased more than 10 points, 75 percent spent less time on MyEconLab before the second exam.

Similarly, of those students whose score increased one letter grade or more, 63 percent spent more time on MyEconLab before the second exam than they did before the first. Of those students whose score increased more than 10 points, 72 percent spent more time on MyEconLab before the second exam.

For both semesters, use of the Study Plan was minimal before the first exam and increased by semester's end and the final exam.

- Spring 2007, 35 students used the Study Plan between exams 1 and 2. Sixty-one students (32 percent) used the Study Plan before the final exam.
- Fall 2007, 42 students used the Study Plan between exams 1 and 2. Sixty-seven (35 percent) used the Study Plan before the final exam.

*MyEconLab provides students the timely feedback they desire and gives professors more time to spend doing what we want to do: teach.*

*—Michael Ryan*
*Western Michigan University*



| Final Grade | Average Time Spent on Required Homework Assignments | | Average Time Spent on Optional Study Plan | | Average Total Time Spent | |
|---|---|---|---|---|---|---|
| | Spring 2007 | Fall 2007 | Spring 2007 | Fall 2007 | Spring 2007 | Fall 2007 |
| A (4.0) | 11 hrs, 28 mins | 13hrs, 44mins | 2 hrs, 20 mins | 3 hrs, 43 mins | 13 hrs, 48 mins | 17 hrs, 27 mins |
| BA (3.5) | 15 hrs, 02 mins | 20 hrs, 59 mins | 0 hrs, 38 mins | 2 hrs, 40 mins | 15 hrs, 40 mins | 23 hrs, 39 mins |
| B (3.0) | 14 hrs, 30 mins | 16 hrs, 13 mins | 1 hr, 02 mins | 2 hrs, 12 mins | 15 hrs, 32 mins | 18 hrs, 25 mins |
| CB (2.5) | 11 hrs, 45 mins | 12 hrs, 13 mins | 1 hr, 32 mins | 2 hrs, 38 mins | 13 hrs, 17 mins | 14 hrs, 51 mins |
| C (2.0) | 10 hrs, 37 mins | 11 hrs, 35 mins | 2 hrs, 04 mins | 3 hrs, 58 mins | 12 hrs, 41 mins | 15 hrs, 33 mins |
| DC (1.5) | 7 hrs, 18 mins | 9 hrs, 23 mins | 0 hrs, 04 mins | 0 hrs, 46 mins | 7 hrs, 22 mins | 10 hrs, 37 mins |
| D (1.0) | – | 9 hrs, 20 mins | – | 0 hrs, 32 mins | – | 9 hrs, 52 mins |
| E (0.0) | 8 hrs, 52 mins | 3 hrs, 25 mins | 0 hrs, 16 mins | 1 hr, 07 mins | 9 hrs, 8 mins | 4 hrs, 32 mins |
| Total | 13 hrs, 47 mins | 13 hrs, 15 mins | 1 hr, 24 mins | 3 hrs, 15 mins | 15 hrs, 11 mins | 16 hrs, 30 mins |

**Table 1. Correlation of Final Grades and Time Spent Using MyEconLab, Spring 2007 and Fall 2007** (*n*=391)

## What Students Are Saying

Ryan's students had the following comments about MyEconLab.

*MyEconLab gives me the chance to practice as much as I need to.*

*The homework link to the e-text has helped me learn how to read textbooks.*

*Practice, practice, practice! MyEconLab gave me so many opportunities to do practice problems.*

*MyEconLab helped me study. I like that I received instant feedback when I answered a question.*

*I wish Dr. Ryan had made the Study Plan mandatory. It really helped me.*

*I love the calendar. I wish I could put everything on it.*

## Conclusions

Based on MyEconLab's contribution to increased student success, Ryan is making the following changes to his curriculum:

- Increased emphasis on MyEconLab's Study Plan: The data shows that student performance increased with its use, so he plans to work toward requiring its use.
- Requirement of a MyEconLab quiz before each homework assignment.
- Additional office hours each week in a computer lab: This will enable Ryan to work directly in MyEconLab with his students to actively reinforce both their knowledge of the material and their understanding of MyEconLab.

*Submitted by Michael Ryan, Associate Professor*
*Department of Economics, Western Michigan University*

# Making it Click 2010

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2010 IMS Learning Award

myitlab



## Bunker Hill Community College

Bunker Hill Community College (BHCC) is a multicampus institution comprising two main campuses and five satellite campuses in and around the Greater Boston metropolitan area. Founded in 1973, BHCC enrolls more than 8,900 students in day, evening, weekend, Web-based, and distance-learning courses and programs. Through more than 65 associate degree and certificate programs, the college prepares students for both immediate employment and transfer to four-year universities.

As early adopters of technology-based learning systems, Mike Puopolo, professor and chairperson of Bunker Hill Community College's (BHCC's) Computer Information Technology (CIT) department, and his colleagues were familiar with the benefits of delivering learning via online and multimedia venues. But by spring 2006, they were looking for a learning management system that was more comprehensive than the one they were then using.

In March 2006, Puopolo began working with a Pearson team on customizing the entire course series—from content to delivery. "All of BHCC's myitlab courses share a common portal, navigation theme, and user interface," says Puopolo. "Students log in once and never have to go anywhere else. Customized course content, plus all of the resources they could ever need—podcasts, sound bites, demo documents—is available through myitlab in one centralized location. We even integrated YouTube into it."

The myitlab application provides Puopolo and the other CIT instructors with the full learning system they'd been seeking. "We love the Gradebook, the discussion features, the textbook-based training, the pre- and post-tests—all of it; myitlab has enabled us to streamline our teaching and present more material in a more coherent fashion," he says.

After examining the changing learning habits of the more and more technologically savvy students entering his classroom, Puopolo decided to tailor his course offerings with those students in mind. "We're piloting a customized eBook in six sections of the course," he says. "It reduced the price of the textbook, and the students seem to prefer it. If end-of-semester surveys indicate, we'll move all 40-plus sections to eBooks this spring."

myitlab's customized eBooks enable Puopolo's students to do universal searches of the book for individual terms—and thereby facilitate their test taking. Other benefits include the integration of multimedia directly into the eBook.

Puopolo was one of the first to volunteer for the testing of myitlab's Grader. "It's a great addition for instructors and students," he says. "It gives me a definite advantage in terms of being able to assign projects. My students are receiving much more detailed information about what they've done right and what they've done wrong than I could offer them in the same amount of time."

Puopolo specifically appreciates Grader's underlying pedagogy. "It dovetails with task-based testing," he says. "Students work on the same document, correcting and resubmitting until they've mastered a skill. By seeing what they've done wrong and correcting it themselves, the learning is reinforced. Results go directly into the Gradebook, where they can then see immediately their work's impact on their grade."

BHCC's enrollments are up 25 percent from last year. The result is an exponential increase in the number of sections and the times they are offered. "Our president is committed to not turning away students," says Puopolo. "Some

departments are even running midnight courses. myitlab enables us to handle the increased scale without losing integrity. All instructors, whether full-time or adjuncts, whether on-site or online—are presented with a fully populated course, including assessments, PowerPoints, demos, multimedia features, and all the assignments. We train adjuncts to deliver this course in a quality fashion in about six hours."

Many of Puopolo's newest students are returning for workforce retraining and were priced out of four-year schools. "myitlab offers these students the kinds of real, on-the-ground skills they'll need regardless of career path," he says. "You need these skills everywhere."

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*—Mike Puopolo*
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BHCC is part of the National Science Foundation's Boston-area Advanced Technological Education Consortium—a consortium of colleges and universities promoting workforce development in information technology in the Boston region. Fulfilling the consortium's mission required commissioning a cross-industry workforce study in 2006. "We learned that small and large companies alike assume that graduates have the requisite technical skills to succeed," says Puopolo. "What they look for above and beyond that are soft-side skills: the abilities to work in teams, to creatively problem solve, to write clearly, and to communicate verbally. Pearson's vast wealth of content meant that we could respond to what we learned by further customizing myitlab with Pearson's Self-Assessment Library, thereby creating our ideal learning management system."

Puopolo's myitlab course folder also includes (1) a customized Pearson text entitled Professionalism: Real Skills for Workplace Success, (2) a group running case culminating in two formal presentations of the collaborative work done by each group, and (3) links to online meetings and collaborative workplace tools, such as Office Live.

Off campus, BHCC leverages myitlab to further its commitment to providing computer and information technology training for community-based organizations in its service area. The college is able to provide elsewhere the same myitlab courses offered on its main and satellite campuses: on-site at organizations, including Action for Boston Community Development, Jewish Vocational Services, the New England Center for Homeless Veterans, and the Urban League of Eastern Massachusetts. During the past two years, this kind of community outreach has benefited more than 300 students, who receive full college credit for courses taken in their own community settings.

"myitlab is much more flexible than I previously thought," says Puopolo. "We're still a computer department and a computer course, but we can now provide our students with all of the 21st-century skills they need to get and keep a good job. It has enabled us to attain our goal of enhancing our students' skill sets beyond grade point average to employability and promotability. It's an excellent product."

For more user stories, please visit
www.myitlabcommunity.com

## American InterContinental University

American InterContinental University (AIU) offers online associate, bachelor's, and master's degree programs designed to help students pursue professional opportunities in business, criminal justice, design, education, and information technology.

In January 2009, AIU administration was seeking a product to help support incoming students who were struggling in English and math. "We'd been using another product," says Constance Johnson, associate provost and vice president of academic operations, "but we weren't 100 percent happy with it. After exploring a number of products, Pearson's MyFoundationsLab won faculty approval for three reasons: it has the most comprehensive assessment and remediation features, its content is geared more toward adult learners, and its customization options enable us to tailor contents, the home page, and navigation so as to align with our school's curricula and teaching objectives."

MyFoundationsLab is used in AIU's four-credit, online and ground University Success course, which is designed to help students with no previous college experience prepare for college success. Each student is required to complete a MyFoundationsLab diagnostic test in order to receive a Learning Path that is individually tailored to that student's skill level and needs. Students have access to the program for one year and are strongly encouraged to make use of it.

Johnson reports that **students who choose to use MyFoundationsLab find the interactive exercises and online tutorials helpful. "We went through 15,000 subscriptions last year alone," she says. "Feedback has been very positive."**

Students access the program from home or from the ground campus's Learning Center, which is staffed by trained tutors. "Students enjoy the program's interactivity: they don't want to wait to learn whether their answers are correct or not, and with MyFoundationsLab they know where they are at every point of the learning process.

"Two years into it, MyFoundationsLab is an integral part of the lives of the majority of our first-term students and a key element in the culture of our entire school," says Johnson. "We're very pleased with it. I absolutely recommend the program to others."

## Lincoln College of Technology, Dayton

Supported largely by the automotive manufacturing industry, the city of Dayton, Ohio, has been hard hit by the nation's economic downturn. The town has lost the majority of its automotive jobs over the course of two years, resulting in periods of double-digit unemployment and record numbers of adults clamoring for workforce retraining.

At the Lincoln College of Technology's Dayton campus, most of these adult students require remediation. "MyFoundationsLab helps," says Jean Yeager, development education department chair.

Seeking a technology to support the school's basic math and foundations of English curricula, Yeager piloted MyFoundationsLab in the summer of 2009. "Although we looked at other products, Pearson's MyFoundationsLab was our product of choice," she says.

For Yeager, top selling points included the bundling of both math and English into one product and the fact that learners can use the product both in and outside the classroom—a value-add in terms of content reinforcement and academic support when Yeager or other staff members aren't available for questions.

"Many of our students are older adults with minimal experience with technology," says Yeager. **"We're committed to keeping the process simple. A product with one log in and password to access both math and English helps us do that. In addition, the program is easy to learn and friendly to use."**

The MyFoundationsLab customization options—implemented both by Pearson and on the customer side—enable the school to make the product uniquely its own. "Pearson is very responsive to my instructors' requests for adjustments to prompts so that they best reflect our population's perspectives," says Yeager. "We can also make adjustments ourselves—and we do."

The school's adult students appreciate the program's flexibility in the face of their unique needs and challenges. "From a student perspective, the biggest benefits of MyFoundationsLab are the ability to complete course work anytime and anywhere there's

Internet access, and the inclusion of both automated and live support," says Yeager. **"No matter what their circumstances, students are provided with all the help they need to persevere and stay on track."**

Yeager uses the program's Ask My Instructor feature to eliminate the intimidation many adult students feel in classrooms full of younger, more technology-savvy students. "It's the first feature I point out," she says. "The e-mail aspect enables students to avoid embarrassment and keeps participaton fear-free."

All students like the immediate feedback and the ability to fix their errors. "MyFoundationsLab creates a learning environment in which there's no reason not to earn 100 percent on every assignment," says Yeager. "It moves us beyond a punitive scoring system to one that reinforces a willingness to keep trying, thereby increasing time on task and aiding learners come test time.

Solid pedagogical benefits and easy-to-use technological features have earned MyFoundationsLab ubiquity across the Lincoln College system. "We started with one pilot of one English section and one math section on one campus," says Yeager. "The next term, we did a limited rollout of the program in all math and English sections on one campus plus in one section each on campuses in the region. Next term, we had instructor buy-in and technical compatibility, and there was nothing left to wait for. Today MyFoundationsLab is a fully integrated element of our college culture."

## Santa Barbara Business College

Santa Barbara Business College (SBBC) offers both diploma and degree programs in allied health and wellness, business, criminal justice, information technology, and paralegal studies. At five on-ground campuses and online, more than 1,600 students a year learn marketable career skills and earn degrees.

"The majority of our students are 18 to 25 years of age," says Heather Machado, director of education. "Many struggled in past academic environments, and today balance schooling with transportation, day care, jobs, and financial challenges. By limiting class size and giving hands-on attention, we offer these students the support they need to achieve their academic goals."

Incoming SBBC students are automatically placed into remedial courses. (Those who request to take an ACCUPLACER test may place out.) To help them progress through the remedial sequence to credit-bearing courses, Machado sought courseware that was more interactive, more engaging, and easier to implement than the school's current program.

Machado explored MyFoundationsLab and declared it a winner. "The program's interactive learning tools—including videos, Ask the Instructor, and step-by-step tutorials—are engaging and supportive of the classroom environment," she says. **"The interaction and immediate feedback keep both online and on-ground students from giving up."**

Other strong points for the program include its ease of use, ability to align one-on-one with a curriculum, range of customization options, and content that is appropriate for adult learners.

"Our instructors like MyFoundationsLab," says Joe Vargas, former dean of SBBCOnline and currently learning management system administrator. "Particularly its robust reporting features and its Course Management feature. And with the program's abundance of material and ways of presenting it, instructors can adjust the course to fit their individual teaching styles as well as the learning styles of their students."

SBBC administration appreciates that course objectives are standardized not only per course and across campuses but also across delivery formats. **"MyFoundationsLab enables our on-ground and online campuses to be in sync, with the same materials, same content, and same look," says Machado. "It helps ensure that all of our curricular outcomes are measurable. We can now attest to outcomes like we never could before."**

Most important, MyFoundationsLab benefits SBBC students. "Every moment a student spends in the program is productive" says Vargas.

MyFoundationsLab also helps alleviate the anxiety many adult learners experience in classroom and testing environments. "Students use the e-mail feature instead of raising their hands and risking embarrassment," says Vargas. "And can go back over their work as many times as it takes to earn a perfect score. These features send a powerful message to students: that the course is more about learning the content than it is about getting a grade. They know we want them to succeed and are more confident because of it."

**Vargas is confident that the program has made a positive difference. "I believe we'll see higher success rates when we compare the data," he says. "I don't see as many failures now as I used to."**

## Spokane Community College

More than 13,000 students (over 6,000 full-time equivalents) attend Spokane Community College (SCC). Whether they work full-time and attend school part-time to obtain the skills necessary for on-the-job advancement or whether they plan to transfer to four-year institutions, students at SCC know they will be supported by a breadth of curricular and student services designed to fulfill the school's tagline: In the business of helping you change your life.

Jeffrey Waybright, accounting instructor at Spokane Community College, is no stranger to online courseware. Asked to develop online classes for the college several years ago, he learned an available program and created the classes but was never completely satisfied with it. Nearly four years ago, Waybright was introduced to MyAccountingLab. "My previous experience left me hesitant," he says. "But implementation of MyAccountingLab went smoothly, and it worked better than I anticipated it would. I really appreciate the Gradebook feature and the enhanced testing features."

Since then, Waybright has integrated MyAccountingLab into all of his distance-learning and on-site courses, using it for everything: homework, quizzes, testing, study plans, tracking, grading, and communication with students. Recently, he increased the amount of homework he requires. "I'm trying to find a middle ground between students who don't need to do a lot of homework and motivating those who need more time on task," he says.

MyAccountingLab helps Waybright respond to the needs of both distance-learning and on-site students. "Distance students don't have the same access to me," he says. "MyAccountingLab offers them access to resources and the ability to walk through a problem [Help Me Solve This] immediately, at any hour. One distance-learning student recently told me, 'Don't feel bad, but I don't really need you. I'll e-mail you if I do.'"

Waybright doesn't feel bad. In fact, during a recent quarter, the scores on the first test in his online class were higher than the scores in his on-site class. "The classes have the same demographic," he says. "The only difference is that some couldn't get the class time they wanted."

Students in Waybright's on-site classes also embrace the program. "Once students realize that all the resources they need are available in MyAccountingLab, they're no longer intimidated by the topic," he says. "They have at their fingertips everything they need to succeed. I can watch their homework and quiz scores and see that they're doing great. They're learning, they're getting their grades, and they're happy."

Data from SCC's Introduction to Accounting courses (see page 4) support Waybright's observations. Of those students who completed the class, the percentage earning 3.1 to 4.0 has steadily risen since implementation of MyAccountingLab's—from approximately 34 percent prior to adoption to 52 percent now, three years after adoption.

Students who want more instructor contact can use the Ask My Instructor feature, which Waybright encourages. "In the past, when students e-mailed me questions, I frequently wondered what they were talking about," he says. "Student communication isn't always clear. Ask My Instructor links me to exactly where they are and what the problem is. It facilitates my giving them meaningful responses that can really help them."

"MyAccountingLab's immediate feedback helps, too," says Waybright. "It holds the interest of a newer generation of learners, who are used to instant gratification. And as a learning tool, it not only indicates right or wrong but also shows students why they didn't get it the first time and how to do it right. Students master one concept before moving on to the next."

> *Some students are slower, and some are faster. With MyAccountingLab, neither group impedes the class as a whole. They all get exactly what they need at their own pace.*
>
> *—Robin Turner*
> *Rowan-Cabarrus Community College*

For Waybright and the rest of his department, one of the primary motivations to use MyAccountingLab is the consistency of assessment. "No matter who your teacher is or whether your class is on-site or online, using MyAccountingLab ensures that our assessments and our quality standards are the same and that our measurement outcomes are the same," he says. "It means our students will always be prepared for the next course."

Even the adjuncts have embraced MyAccountingLab. "As coordinator of the course, I set up everything ahead of time: the quizzes are written, and the homework is all there," says Waybright. "It makes it easy for adjuncts to step in. I think it has helped us get adjuncts, particularly those with time considerations, such as working CPAs."

It's those kinds of full-course support that have hooked Waybright: He knows that students are more likely to use a program if they have a positive experience. It saves him time, streamlines departmental communication, and enables him to gain support from adjuncts without compromising assessment integrity. Most important, it works.

For more user stories, please visit
www.myaccountinglabcommunity.com

# What are instructors saying?

## MyCompLab®

"MyCompLab is the most comprehensive program that I have found when it comes to composition (writing, peer review, revision, grading, tutoring), grammar (individual study plans and exercises), assignments (a full array of multimedia resources and materials), and ease of use. After using it consistently for two years, I still feel that I have just begun to explore the vast array of resources available to me in one place."

—Dr. Natasha Whitton, Instructor, *Southeastern Louisiana University (LA)*

## MasteringChemistry®

"MasteringChemistry is the best online chemistry homework program that I have used. The structure of the questions and the hints motivate the students to continue working on the problems, and the immediate feedback increases their confidence."

—Ann Verner, Instructor, *University of Toronto–Scarborough (ON)*

## MyAccountingLab®

"MyAccountingLab is adaptable to a wide variety of course delivery methods, including traditional face-to-face classes and web-based classes. I have used MyAccountingLab in several courses and have been very impressed with how flexible it is."

—Wendy Tietz, Professor, *Kent State University (OH)*

## MyITLab®

"Courseware like MyITLab introduces students to a training model that future employers will use. It raises the bar on their skills and on their understanding of the kind of technology ubiquitous in a global community, thereby providing students with a value add in the eyes of future employers."

— Lancie Affonso, Director of Information Technology Fluency, *College of Charleston (SC)*

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