

Product Name MyMathLab

Course Name Elementary Algebra

Course Format Fully online

Key Results After implementing MyMathLab plus its accompanying Video Organizer in a fully online, self-paced Elementary Algebra course, student pass rates increased by 40 percent.

Submitted by

Kim Ghiselin, Assistant Professor

Course materials

MyMathLab and *Preadgebra & Introductory Algebra*, Elayn Martin-Gay plus Video Organizer

Setting

Established in 1957, State College of Florida, Manatee-Sarasota (SCF) is the region's first and largest public, two-year college serving approximately 27,000 college-credit students a year via three campuses and online. For the 2013/14 academic year, 53 percent of the school's full-time students received Pell Grants. In fall 2013, 60 percent of its students were female, 58 percent were enrolled part-time, 66 percent identified themselves as Caucasian, and 14 percent identified themselves as Hispanic.

The Elementary Algebra course comprises basic algebra concepts and skills needed for success in higher-level courses. Topics include working with real numbers, exponents, polynomials, radicals, rational expressions, graphing linear equations, factoring polynomials and solving linear and quadratic equations. In Assistant Professor Kim Ghiselin's online course, students submit online assignments, work outside of the classroom to complete course material, and come to campus or other approved testing center to take proctored, paper-and-pencil exams.

Ghiselin employs MyMathLab and the accompanying Video Organizer to fulfill her goal of providing an eight-week, self-paced, accelerated course in which students can get up-to-speed in developmental math and be prepared to proceed to college-credit courses.

Challenges and Goals

In fall 2014, the Florida legislature mandated that students who graduated after 2007 from a Florida public high school needn't take placement tests, can skip developmental math, and can enroll directly into college-level math courses. As a result, some students entering college math courses are not ready for college-level content. In addition, because the State's goal is to move students more quickly through the developmental math sequence, developmental math courses must now be taught in 8-week sessions instead of the traditional 16-weeks. According to the SCF website, of the 2011/12 Florida public high-school graduates who enrolled in fall 2012, only 59.4 percent were ready for college-level mathematics.

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Content in the Video Organizer is presented in the same order as it is presented in the videos, making it easy for students to create a course notebook and build good study habits.

Implementation

The online course meets three times per term: for a course orientation at the beginning of the semester, a proctored midterm, and a proctored final exam. In accordance with US Department of Education guidelines regarding class participation, during the first four calendar days of class the school requires students to complete an orientation and then submit any required first-half of Week 1 assignments for each course. Financial aid cannot be released without class participation as defined above, so Ghiselin requires that her students complete a MyMathLab Orientation assignment, a Diagnostic Test, a homework assignment and Video Organizer, and the first part of discussion post #1 by the fourth day of the semester. Students who don't comply are dropped from the course and classified as no shows.

Every week, sections are assigned according to the syllabus calendar. For each assigned section, students are asked to do the following.

1. **Read the section in the eText.**
2. **Watch the Lecture Videos for the section in MyMathLab and complete the Video Organizer.** The Video Organizer, created by the textbook author, Elayn Martin-Gay, encourages students to take notes and work practice exercises while watching the author's lecture series. Content in the Video Organizer is presented in the same order as it is presented in the videos, in an effort to make it easier for students to create a course notebook and build good study habits. In addition, the Video Organizer provides ample space for students to write key definitions and rules throughout the lectures, and *play* and *pause* icons prompt students to work exercises both with Martin-Gay and on their own. Students submit their Video Organizers for grading during paper-and-pencil midterm and final exams.
3. **Complete the homework in MyMathLab.** Weekly homework assignments are due on Wednesday and Sunday nights. Students have unlimited attempts to complete approximately 20 questions.
4. **Complete the discussion assignment.** Students are required to answer the posted discussion question and respond to at least one classmate. Example questions

include: discuss how you plan to study for the course, give a real-life example of slope, and give a trinomial that can be factored into two or three factors (someone else in the class provides the answer). Ghiselin conducts these discussions via Canvas.

Students take five chapter tests (including a proctored midterm) and a proctored final exam. Learning aids are turned off during MyMathLab chapter tests and students have one attempt and 60 minutes to complete each one. However, students who have scored at least 80 percent on all unit assignments earn a second test attempt. Ghiselin emphasizes that students return to MyMathLab Study Plans to review for their second attempts.

In addition to MyMathLab's lecture videos, homework, and testing capabilities, Ghiselin uses the item analysis feature in the program's gradebook to see what test items students are missing. She then checks their second attempts in the same way. Students must score at least 70 percent on the final exam in order to pass the course.

Assessments

50 percent	Chapter tests <i>(four online via MyMathLab; one proctored, paper and pencil)</i>
20 percent	Comprehensive final exam <i>(paper and pencil, proctored, must score at least 70 percent to pass the course)</i>
10 percent	Discussion assignments
10 percent	MyMathLab homework
10 percent	Video Organizer

Results and Data

Ghiselin believes that the Video Organizer made a positive difference in her online courses. In fall 2014, she offered two eight-week sessions of the course. In the first session, 19 of 24 students completed the Video Organizer to at least 90 percent. Of those 19 students, 84.2 percent (16) earned an A, B, or C in the course, which allowed them to proceed to college-level courses. The three students who did not pass the course received Ds because they scored less than 70 percent on their

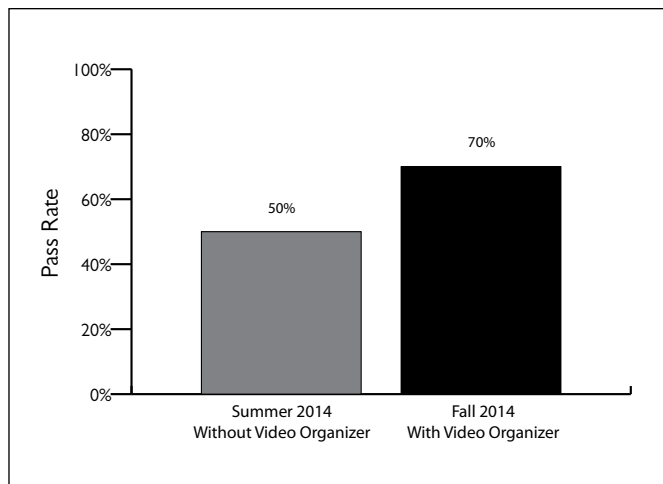


Figure 1. Pass Rates before and after Implementation of the Video Organizer, Summer 2014 ($n = 37$) and Fall 2014 ($n = 43$)

final exams. Three of the five students who failed to complete the Video Organizer received Fs in the course.

In the second eight-week session, four of the nineteen total students did not submit Video Organizers at midterm. Five (including the four who didn't submit Video Organizers) received Fs in the course, resulting in a 73.7 percent pass rate. The student who did turn in the Video Organizer but did not pass the course performed poorly on the final exam.

Since implementation of the Video Organizer, pass rates have increased by 40 percent—from an average of 50 percent during three eight-week terms prior to implementation to an average of 70 percent with it (Figure 1). The data indicate a relationship between Pass Rates and Video Organizer implementation. Video Organizer completion represented 10 percent of the final course grade when calculated, thereby influencing this relationship. Ghiselin, though, attributes the increase to students being engaged in course content, working problems while watching the videos, and taking notes in a more organized manner—all of which are enabled by the Video Organizer.

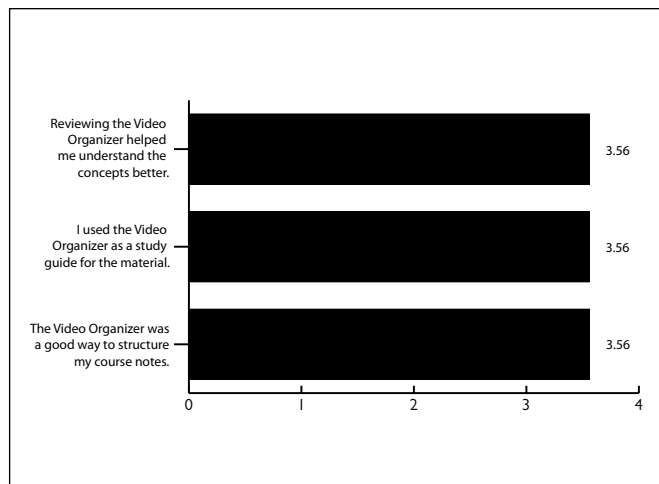


Figure 2. Student Survey Responses, Spring 2015 ($n = 9$)

The Student Experience

Students who completed a fall 2014 survey were complimentary about the resource's impact on their learning. Comments included the following:

"The Video Organizer was essential to pulling together the lessons we were learning. Simply reading how to solve the problem was not enough for me. The video lessons were essential."

"I used the Video Organizer two to four times a week. It was a graded assignment, but it's also how I received all of my lectures for the course. They were super easy to follow and made keeping up in class simple."

Figure 2 shows student responses from a spring 2015 survey. [Note: Ghiselin cautioned that survey participation was low because it was given on the last day of class *after* the final exam.]

Conclusion

"I recommend that anyone teaching this course online consider requiring the Video Organizer," says Ghiselin. "My results reflect the truth behind the phrase 'students don't do optional.' The videos are short and help my students save time—they no longer spend hours trying to take short cuts or going straight to assigned problems without first having some instruction. I also receive fewer emails for help because Martin-Gay's videos addressed most of my students' questions."

Implementation and results case studies share actual implementation practices and evaluate possible relationships between program implementation and student performance. The findings are not meant to imply causality or generalizability within or beyond these instances. Rather, they can begin to provide informed considerations for implementation and adaptation decisions in other user contexts. For this case study, mixed-methods designs were applied, and the data collected included qualitative data from interviews, quantitative program usage analytics, and performance data. Open-ended interviews were used to guide data collection.