

## Maureen DuPont, M.A.

Math Lab Director and Instructor — California State University of San Marcos;  
Instructor at Palomar College

### Enhanced WebAssign® Sparks Student Engagement with Interactivity and Instant Feedback

You might say that Maureen DuPont was destined to be a mathematics instructor. As a math major in 1991 at California State University San Marcos (CSUSM), she was asked to tutor struggling math students. The university's Math Lab was born, and she has been its director ever since, working on two Master's degrees along the way. Maureen also teaches several courses at CSUSM and nearby Palomar College. She uses Enhanced WebAssign® (EWA), an online homework solution from Cengage Learning, in her intermediate algebra class at Palomar College and in her math for elementary school teachers course at CSUSM. She's pleased with her students' improved performance and the time she saves by not having to grade homework by hand. Her students' experience with EWA is also positive. "I'm sorry I waited so long to take advantage of Enhanced WebAssign," she says. "It's such a powerful solution."

#### COURSES AND PARTICIPANTS

Both of Maureen's EWA courses are taught in a traditional lecture format, but their demographics vary. Intermediate algebra tends to have a higher percentage of older students. Many are professionals who attend lectures before going to work. Others are from rural areas, including children of migrant workers who are the first in their families to attend college. Most are in the course to satisfy a Palomar general education requirement, and have taken a placement exam or a previous algebra course.

In intermediate algebra, Maureen uses EWA for homework assignments and traditional pen-and-paper quizzes and tests in class. Students are required to use EWA, which includes access to an eBook, but are welcomed to purchase the printed textbook.

The math for elementary school teachers course satisfies a general education requirement for quantitative reasoning at CSUSM. Most of the 59 students in the class are of traditional college age, and female. Maureen uses EWA for homework as well as for extra-credit quizzes to assist students who need additional guidance, practice, and feedback outside of class.

EWA is also available to students at the Math Lab, which accommodates more than 16,000 student visits per year.

#### THE CHALLENGES

Maureen's biggest challenge is the disparity in skill levels among her students. There are always some who are deficient in basic skills, either due to poor preparation in high school or the dubious good fortune of having guessed correctly on a placement exam. "In intermediate algebra, students want me to teach fractions when I should be covering quadratic equations. Some don't understand the concepts of repeating decimals or rounding up," she says. "Student scores range from the 40s to the 90s. I can't leave the slower ones behind, but I also have to keep the top students challenged. It's difficult to find a balance."



#### CHALLENGES

- **Deficiency in basic math skills** needed in algebra requires use of class time to teach simple concepts, making it more difficult to keep proficient students challenged.
- **Students may lack motivation to undertake critical practice outside of class** especially if they get stuck while doing homework.
- Grading homework and answering email questions from students is **time-consuming**.

#### SOLUTIONS

- Enhanced WebAssign®
- Clark, Mark, & Cynthia Anfinson, *Intermediate Algebra: Connecting Concepts through Applications*
- Fierro, Ricardo, *Mathematics for Elementary School Teachers*

#### RESULTS

- **EWA assignments allow all students to work at their own pace**, offering direct links to "Read It" eBook pages and video solutions that provide struggling students with one-on-one guidance and extra practice.
- **Immediate feedback on incorrect answers** spurs students to use additional resources before they proceed, thereby engaging them in their own learning and reinforcing their understanding.
- **Instructors save time** with automatic grading of homework. EWA communications tool allows efficient, problem-specific interaction with students.

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Time spent assessing students’ performance can also be taxing. “I review quizzes carefully because I sometimes give partial credit for the methodology even if the answer is incorrect. I can’t imagine also grading homework every week for all 59 algebra students,” she says. “And even if I did, so much time would pass between students handing in homework and seeing their scores that they would have forgotten about it.”

**THE RESULTS**

Maureen and her students have seen positive results with EWA. She allows two tries on each homework problem, and believes that doing so — combined with the immediate feedback that EWA provides — helps to effectively prepare students for the next level of math. “Students are so accustomed to texting, Twittering, and such, that they want feedback right away, and with EWA they have quick access to help for every problem,” she says. “They like clicking the ‘Read It’ button, which links directly to the relevant eBook page. They also like the video solutions.” Depending upon the text in use and the instructor’s preferences, EWA also offers mini-tutorials and a “practice another version” feature.

Equally important, according to Maureen, is how EWA engages students. “If they see a red check next to an answer, they use the additional resources before their next attempt because they want to make sure they answer correctly. They’re studying, engaging, learning, and getting immediate feedback and reinforcement — that’s what’s so powerful about EWA.”

Maureen is also happy with two other benefits of EWA. “I’m pleasantly surprised by how well students are doing on their homework,” she says. “I’d say 90% of the class scores 88% or higher on every assignment. That didn’t happen when I was pencil-grading handwritten sheets.” EWA also aids Maureen’s productivity in responding to students’ questions. “My students and I use the EWA communications tool. If someone had trouble with Problem 16, they send me a note. I click a button, see the problem and how they answered it, and write them back explaining what they did incorrectly.” She adds, “This feature also clues me in as to what types of problems students are having, so I can address them in class.”

Maureen’s colleagues are also becoming convinced of EWA’s advantages. “Two instructors who chose not to use EWA are sorry, because they’re bogged down with grading, and hear the rest of us discuss how well our students are doing,” she says. “Teaching today takes all the innovative resources and efficiency that we can muster to engage learners. All students should have the opportunity to do homework on their computers. Auto-graded homework with immediate feedback — what’s not to like?”

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