

## **A Hands-on Approach to Mathematics**

*Englewood district the latest to adopt new pedagogical approach to learning*

**ENGLEWOOD, NJ**—At Janis E. Dismus Middle School, students file into the classroom as they would in any school. But there's one extra step: When called upon, students line up to collect their electronic student responders. Then they file back to their desks.

It's all par for the course at Dismus, which launched the Progressive Mathematics Initiative for all students in grades 6 through 8. The school integrated the PMI model as part of its approach to standard-based learning.

"PMI is so focused on the Common Core Curriculum," said Rycki Waldeck, an 8th grade teacher at Dismus, which began piloting PMI during the 2011-12 academic year. "We realized pretty early on how good of a fit this was."

PMI and its companion, Progressive Science Initiative, were developed by the New Jersey Center for Teaching and Learning (CTL). First used to support the teaching of algebra, PMI is now available for K-12, including AP Calculus.

PMI aligns to Common Core standards, the educational framework adopted statewide in 2010 to ensure a "clear and consistent" approach in preparing students for college and the workforce.

CTL programs replace textbooks with free digital content used in classrooms on interactive white boards as well as distributed to students either as printouts or electronically on a tablet or laptop.

Waldeck is such a proponent of the model that she travels to districts around the country offering professional development, training, and celebrating the nature of what she calls "a living curriculum."

"The thing that works with PMI, from both a curriculum writer's and an instructor's standpoint, is that we can make tweaks and changes to the curriculum based on new and emerging standards," Waldeck said. "If you have a textbook, you're stuck with it, and if you change it, it's potentially a big cost to the district."

PMI enables also a district to fine-tune a curriculum to suit its own needs, said Rosemary Seitel, site administrator for the Englewood Public School District.

"We're talking with CTL about elements we want added to the curriculum, and it's not about ordering new textbooks—it's about making changes to a program," Seitel said.

“This lets us tailor the curriculum to our own needs, tailor it locally and emphasize areas where our students might need more support,” she added.

The adjustability component, and the constructivist, hands-on approach, Seitel said, “is the wave of the future.

“If we needed curriculum changes in the past, who were we going to call? Mr. Prentice Hall?” she said, referring to the noted education publisher. “You can’t do that.”

But you can call Dr. Robert Goodman. Goodman is executive director of CTL, an independent non-profit foundation created by the New Jersey Education Association in 2006. Its hallmark programs, PSI and PMI, are now being implemented in districts across New Jersey as well as in Colorado and Rhode Island.

In 2012, the programs received a pledge of up to half a million dollars from the National Education Association with a commitment of \$1 million more to expand nationwide and replicate the program that resulted in a gain of 60 new physics and chemistry teachers in New Jersey public schools. Previously, the state averaged an increase of 10 new physics and chemistry teachers per year.

“This program develops teachers’ skills and creates student enthusiasm for jobs of the future,” Goodman said.

Indeed, Seitel emphasized the students’ elevated level of engagement.

“They’re interacting with technology appropriately to better their worldly scope—this is 21<sup>st</sup> century learning; it’s global technology,” Seitel said.

Both she and Waldeck said the method allows students to engage in far more self-teaching than ever before.

“My students grab the answer key and they ask each other the questions,” Waldeck said. “It’s quite a thrill, as a teacher, to be able to sit back and let them run the class for a moment.”

Seitel said that ideal is part of understanding constructivist learning.

“This is about students taking on the ship and being the driving force,” she said, adding “It’s such a beautiful thing to see it in action.”