

Perth Amboy schools to implement new science, math initiative

PERTH AMBOY — The city will be the first school district in the state to adopt an innovative approach to science and mathematics education created by the New Jersey Center for Teaching and Learning.

Funded in part through a federal Race to the Top grant organized and administrated by the New Jersey Department of Education, the 10,000-student district will completely overhaul the way it teaches math and science in elementary, middle school and high school. It will bring its math curriculum in line with new Common Core State Standards, required to be adopted by every school district next year, and increase its participation and passing rates on Advanced Placement science and math exams.

“While these approaches to science and math education have each been demonstrated to improve student performance in their subject area, they had not previously been adopted in the same district for all applicable grades,” said Robert Goodman, the executive director of the Center for Teaching and Learning. “It’s expected that combining the two initiatives over all grades will provide even greater

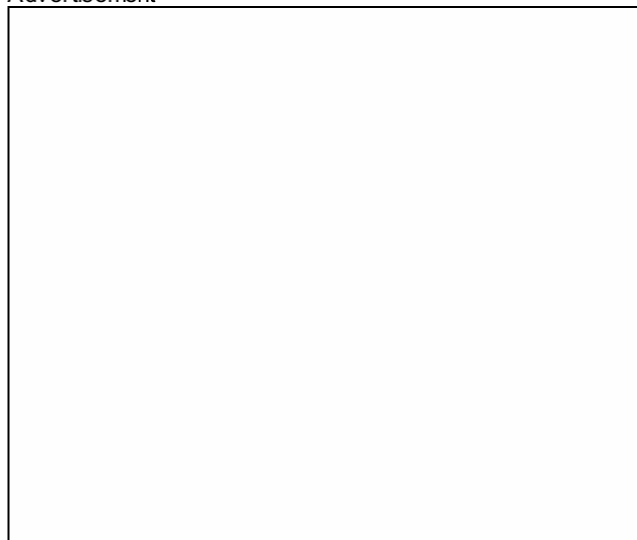
benefits in student achievement in the district.”

Perth Amboy Superintendent Janine Walker Caffrey said she is proud that the district is leading the way.

“We are ready to raise expectations for all of our students, especially those who have not had access to advanced courses before,” said Caffrey, who will receive training from the Center for Teaching and Learning and will teach one physics class per day in the fall. “I am not sure who is more excited about having physics instruction for all ninth-graders — the students, parents or teachers.”

The Center for Teaching and Learning, an independent nonprofit foundation created by the New Jersey Education Association in 2006, runs two programs — the Progressive Science Initiative (PSI) for high school science and the Progressive Mathematics Initiative (PMI) for K-12 mathematics. Each program offers a more rational and effective approach to math or

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science education.

PSI changes the sequence of high school science instruction from biology-chemistry-physics to physics-chemistry-biology — a change that is recognized as highly desirable but practically difficult to implement because of a shortage of physics teachers. PSI addresses that obstacle through a program that trains teachers to teach physics.

PSI and PMI use technology to integrate curriculum, teaching and assessment, making science and math more accessible while using free open-source digital course content to eliminate the need for costly traditional printed textbooks.

PMI will be implemented in Perth Amboy for all middle and high school students in grades 5 to 12 and at the Dr. Herbert N. Richardson 21st Century Elementary School for grades kindergarten to 4. Not only will this be the first K-12 implementation of PMI from kindergarten through calculus, it is the first time that one approach to mathematics has been implemented over all grades.

PSI will be implemented for all students in Perth Amboy High School, connecting the sciences from year to year, while connecting PSI science to PMI mathematics.

PSI has helped lead to a marked increase in the number of students sitting for and passing Advanced Placement science exams, even in urban schools, where high levels of academic performance would not

be expected.

This summer, the New Jersey Center for Teaching and Learning is training about 20 elementary school teachers, 40 middle school math teachers, 28 high school math teachers and 29 high school science teachers in PSI-PMI methods.

Additionally, because every student will take a mathematically rigorous physics class in their freshman year, there is a need for 16 new physics teachers. The New Jersey Center for Teaching and Learning, in collaboration with Kean University, will provide a one-year sequence of graduate-level course work so that 16 existing Perth Amboy teachers will receive their endorsements to teach physics and will be able to teach the first year physics course this fall.

Dr. Susan Polirstok, dean of the College of Education at Kean University, said the university is proud of its partnership with CTL and the Perth Amboy School District.

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“Providing access to a rigorous physics curriculum in grade 9 is key to making sure students have opportunities to pursue STEM careers in the future and will help to keep America competitive in the world,” Polirstok said.

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