The Partnership for Reform in Science and Mathematics

Partners
15 school systems: Atlanta, Bryan, Bulloch, Camden, Candler, Chatham, Clarke, Effingham, Evans, Glynn, Jackson, Oconee, Screven, Toombs, & Vidalia City  •  7 IHEs: Armstrong Atlantic State University, College of Coastal Georgia, Georgia Perimeter College, Georgia Southern University, Georgia State University, Georgia Institute of Technology’s Center for Education Integrating Science, Mathematics & Computing (CEISMC), and the University of Georgia  •  2 state partners: University System of Georgia and the Georgia Department of Education

Project Description
In 2003 the National Science Foundation (NSF) awarded the University System of Georgia (USG) a $34.6 million grant through the Math Science Partnership program. This comprehensive research, development and implementation project continues to test key strategies to increase student learning and achievement in science and mathematics in schools and colleges to codify what works, to use it to influence statewide change in policy and practice, and to inform the nation about successes that should be replicated to rebuild America’s competitive advantage in science and mathematics.

Strategies Employed
• Provided intensive professional learning to enable K-12 faculty to increase their content knowledge and improve their teaching skills.
• Designed and implemented the Institute on the Teaching and Learning of Science and Mathematics for college and university faculty to improve their teaching skills.
• Brought K-12 and college and university faculty together through P-16 Learning Communities where they studied and learned together – creating an opportunity for improved instruction throughout the education continuum.
• Collaborated with the GaDOE to create the Georgia Performance Standards (GPS) in science and mathematics, and to ensure that all K-12 students take the challenging courses and curricula needed to be successful.
• Provided professional learning for science and mathematics specialists from Regional Education Service Agencies and GaDOE to improve their capabilities to deliver appropriate and effective professional learning related to the GPS.
• Implemented opportunities for college students and high school students to participate in activities designed to recruit them into science and/or mathematics teaching.
• Redesigned core science and mathematics courses at the college level.
• Developed and implemented a science and mathematics teacher leader model for PRISM schools.
• Developed and implemented a PRISM Public Awareness Campaign to change the attitudes of Georgia’s K-12 parents, students and educators as to the need for all students to have access to, be prepared for, and to succeed in challenging science and mathematics courses.
• Revised current policies for promotion and tenure of higher education faculty to include recognition of work in K-12 schools.

Fall 2008
• NSF awarded PRISM an additional $600K to fund a Master Teacher Program for Teacher Leaders in PRISM Districts designated as high-need, & $2.03 million to fund PRISM Phase II to complete further research on learning communities. The PRISM public awareness campaign and the effects of the USG’s Work in Schools policy.

These awards have served more than 170,000 K-12 students, 10,000 K-12 public school faculty and 600 University System faculty in the four-PRISM regions.

Indicators of Success

Facts & Figures
• 17,000+ teachers of science and mathematics participated in professional learning opportunities
• 15,000+ participants in Math/Science Family Nights
• 600+ faculty attending the Institutes
• 370 college juniors and seniors majoring in the sciences participated in a program designed to place them in elementary classrooms to provide hands-on science lessons
• 350+ K-12 teachers trained to serve as PRISM Lead Teachers with 25 serving as Teacher Leaders
• 308 people from 18 states attended the Accepting the STEM Challenge: Preparing K-16 Students for Global Competitiveness in the 21st Century hosted by PRISM in September 2008.
• 192 presentations delivered
• 187 high school students participated in the Academy for Future (science and mathematics) Teachers
• 29 journal publications
• 11 books published – including 1 “how to” book, Increasing the Competitive Edge in Science and Math providing instructions for developing and managing a large scale project.
• 1 Public awareness campaign continuing with 280 outdoor billboard ads, 225 bus shelter ads, 135 train cards, 510 TV spots/PShops, 20 bus wraps, 207 internal bus ads, 1 two-page spread in Georgia Trend Magazine, 8 Parent Magazine ads, 27 articles in various newspapers, parent guides and posters distributed and 120 Math/Science Family Nights

Sample Results

In 2009, 100% of PRISM districts improved their graduation rate while increasing the percent of students taking more rigorous science and mathematics courses. Eight (8) districts now post a graduation rate equal to or greater than the state average as compared to four (4) districts in 2004.

In 2004, 9 PRISM districts had a pass rate greater than or equal to the state average. By 2009:
• 11 PRISM districts had a pass rate greater than or equal to the state average.
• 13 PRISM districts improved their pass rate.
• 1 stayed the same (97).
• 1 decreased by three percentage points (96 to 93).
• 5 PRISM districts posted a percent increase of greater than 3% (the state increase).

In 2008-2009

High School Graduation Test Math Performance

In 2004, 7 PRISM districts had a pass rate greater than or equal to the state average. By 2009:
• 11 PRISM districts had a pass rate greater than or equal to the state average.
• 13 PRISM districts improved their pass rate.
• 1 stayed the same (97).
• 1 decreased by one percentage point (96 to 93).
• 5 PRISM districts posted a percent increase of greater than 3% (the state increase).

In 2003-2004

High School Graduation Test Science Performance

In 2004, 7 PRISM districts had a pass rate greater than or equal to the state average. By 2009:
• 11 PRISM districts had a pass rate greater than or equal to the state average.
• 13 PRISM districts improved their pass rate.
• 1 stayed the same (97).
• 1 decreased by one percentage point (96 to 93).
• 5 PRISM districts posted a percent increase of greater than 3% (the state increase).

Source Used: Georgia Office of Student Achievement
2009 School Report Card Data