The Partnership for Reform in Science and Mathematics

PRISM
Partnership for Reform in Science & 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

math + science = success™

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, 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

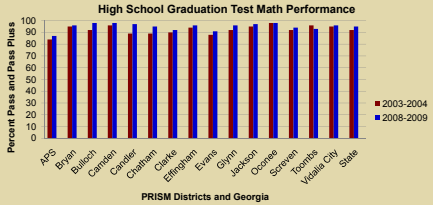
- **308** people from 18 states attended the *Accepting the STEM Challenge: Preparing K-16 Students for Global Competitiveness in the 21st Century* hosted by PRISM in September 2008.
- **192** presentations delivered
- **187** high school students participated in the Academy for Future (science and mathematics) 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/PSAs, 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

- **1** STEM Initiative implemented in 11 additional USG institutions

Sample Results

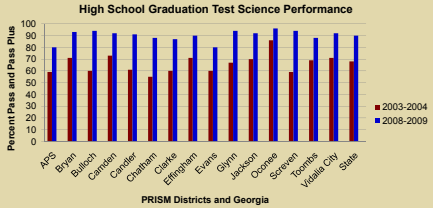
In 2009, 100% of PRISM districts improved their graduation rate while increasing the percent of students taking more rigorous science and mathematics courses. Eight (8) districts now post a graduation rate equal to or greater than the state average as compared to four (4) districts in 2004.



In 2004, 8 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 2004, 7 PRISM districts had a pass rate greater than or equal to the state average.

By 2009:

After the adoption and implementation of a more rigorous curriculum

- 11 PRISM districts had a pass rate greater than or equal to the state average.
- 15 PRISM districts improved their pass rate.
- 6 PRISM districts posted a percent increase of greater than 22% (the state increase).

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