



Solutions

SPRING 2008 VOL. 6 NO. 1

INNOVATIVE PARTNERSHIPS FOR EDUCATION

NJ SSI Funding Helps District Increase Student Achievement

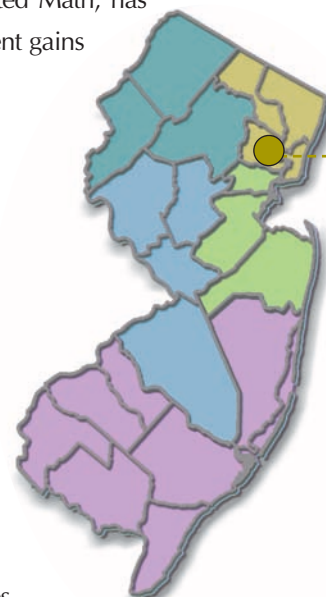
Montclair Public Schools

The NJ SSI Partnership with **Montclair Public Schools** began in 2001 and has been sustained over a period of six years. Through a Standards Implementation grant, Montclair Public Schools, in collaboration with the PRISM Center at Montclair State University, implemented *Everyday Mathematics* at five of the seven magnet schools and the *Connected Mathematics Program2* at the middle school level. In one particular elementary school, 41% of the students were performing at the Partially Proficient level in mathematics on the state standardized test in 2002. The district recognized the need for change. NJ SSI grant money paid for manipulatives, intense professional development, as well as instruction in pedagogy and differentiated instruction. The Professional Resources in Science and Mathematics (PRISM) Center at Montclair State University worked closely with the Montclair Public Schools to provide professional development to identify strengths and weaknesses at each grade level.

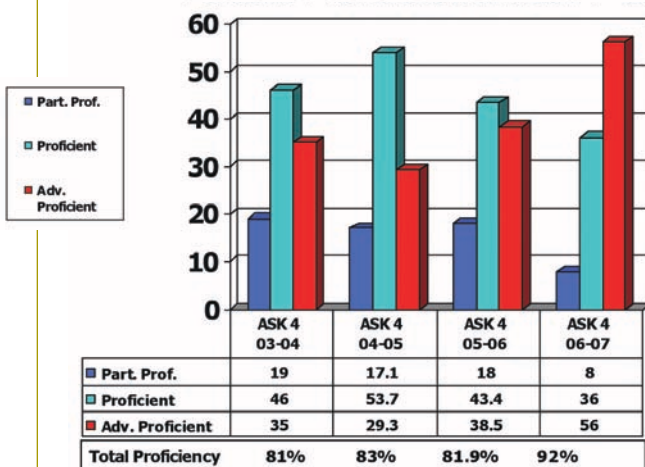
Since the *Everyday Math* pilot program was initiated at one school in 2000-2001, the grade 4 math scores for both general and special education populations have improved over time. Almost 20% more of their fourth-grade students are scoring at Proficient or Advanced Proficient levels since the program was implemented. One teacher observed that "The children are much better problem-solvers because this program teaches them strategies."

Montclair's middle schools have also benefited from NJ SSI funding. With additional financial support from several successful Standards Implementation grants, the district has introduced *Connected Math*, a standards-aligned program, in the middle school. At least 70% of the grant funding is earmarked for teacher professional development. One middle school that incorporated Connected Math, has already sustained significant student gains for more than two years.

The supportive relationship between the Montclair PRISM Center, Nancy Schultz, their math trainer, and the Montclair public schools highlights the success of community partnerships. District leaders believe that the remarkable academic growth of their students correlates with the surge in professional development activities.



Montclair ASK4 Math Results
The Pilot School
Percent Proficient from 2004 -2007



Developing a World-Class Workforce

In response to Governor Jon S. Corzine's Economic Growth Strategy for the State of New Jersey 2007, Commissioner of Education Lucille Davy created an Office of Math and Science Education at the New Jersey Department of Education. According to Sandra Alberti, Director of the Office of Math and Science Education, this new initiative is aligned with the Governor's economic growth strategy of developing a world-class workforce by assisting students and job seekers to obtain the skills and education that are needed in a competitive global economy. Alberti says that her office is interested in networking with math and science professional development providers, promoting best practices in math and science education, and providing publications for parents and teachers that will highlight best practices. Alberti states that "We will look at the lessons that occurred with language arts literacy and we would like to parallel our initiative to math and science education, standards and assessments and support K-12 teachers in mathematics and science education."

Recognizing that the New Jersey workforce needs to have strong math and science skills, the goals of her office will be to strengthen the math and science skills of all students, increase the number of math and science graduates from colleges and universities, and develop initiatives that will increase the number of certified math and science teachers.

The Department of Education will establish a state-level council to guide math and science education in the state's K-12 system. The council will consist of teachers, administrators, and representatives from higher education and the business community. The council will provide specific recommendations and strategies to improve math and science teaching and learning based on New Jersey's Core Curriculum Content Standards.

A new initiative to develop a world-class workforce by assisting students and job seekers to obtain the skills and education that are needed in a competitive global economy.

New Jersey workforce needs to have strong math and science skills...



Deptford Improves Math and Science Curriculum

Prior to its involvement with the Rowan University Regional Center, the science curriculum at **Deptford Township School District** was primarily textbook-based.

A science committee representing grades 1-4 was introduced to exemplary inquiry-based science materials by Ellen Rothschild and John Faubl at the Rowan Regional Center. Based on the needs of the district and the New Jersey science standards, a matrix of topics was developed for Deptford. In the spring of 2006, Deptford was awarded a Standards Implementation Grant and elementary teachers received professional development on inquiry-based science during the summer.

A committee consisting of middle school science teachers was convened in the Spring of 2007. In consultation with the staff at Rowan University, the middle school teachers also developed a science matrix and selected inquiry-based science materials that addressed their needs. Professional development for the middle school teachers took place during the summer of 2007.

In another step forward, Deptford recently joined Rowan's Partnership Program to focus on the high school mathematics program. The teachers at the high school are already excited about making a change in their mathematics program. One of the direct results of this partnership is the development of a Mathematics Vision Statement for the entire district based on the information learned from the program.

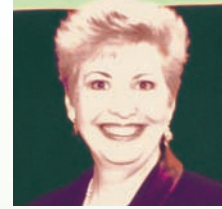
Sometimes, success is best measured by people's reactions. One elementary teacher shared that "My students get so excited when it's science time.

They adore this program and all the hands-on activities and explorations. This module allows for lifelong learning and conceptual understanding, not just a simple fact memorization for the unit test." An elementary student from her classroom concurred saying that "Science is cool because we do all the experiments."



NJ SSI List Serv

The NJ SSI list serv currently serves over 1,000 subscribers providing outreach for its Regional Centers and partners about professional development opportunities and resources in mathematics, science, and technology education across the state. You may subscribe to the NJ SSI list serve by sending your name and e-mail address to **Yvonne Gonzalez** at yvonneg@rci.rutgers.edu



From the Director

*Deborah H. Cook
Ed.D.*

NJ SSI began 15 years ago with a simple goal: to improve mathematics, science and technology education for ALL New Jersey's students. A partnership of institutes of higher education, school districts, the NJDOE, business and industry, and other agencies was formed and subsequently funded with grants from the National Science Foundation and the State of New Jersey.

Since our inception in 1993, the NJ SSI partnership has worked with 85 % of the schools, including all the Abbott districts, and has served approximately 50,000 teachers of mathematics and science. During this time an infrastructure to rapidly deliver information, cutting edge research, and support services to schools in the critical areas of mathematics and science was developed. Resource centers where educators can go to review new materials, learn new instructional techniques, collaborate with peers, and become proficient with new technology were established.

Since 1997, NJ SSI has provided 230 small grants to 150 school districts across the state enabling them to implement curricula that are aligned with the NJ Core Curriculum Content Standards. Districts that worked with NJ SSI to develop strategic plans and subsequently received a standards implementation grant improved their rates of student proficiency on relevant state tests by an average of 28.5%, more than twice the rate of improvement of the other districts in their DFGs, a measure of the district's socio-economic status.

For nine consecutive years, the State has generously provided funding for NJ SSI. However the proposed budget for Fiscal Year 2009 eliminates this funding. Without state funding, NJ SSI will not be able to continue. The students in New Jersey's schools will ultimately be at a disadvantage because the educators, who are the most critical piece in the learning cycle, will have one less avenue to gain the knowledge and skills they need to be effective. For more information contact NJ SSI at (732) 445-2249.

C A L E N D A R O F E V E N T S

SPRING 2008

Mark
The
Dates

For additional information

about these events and other

professional development

opportunities, please visit the

News and Events section of

the NJ SSI web site at:

<http://njssi.rutgers.edu>

APRIL

4/1
Physical Science & Engineering2 -
Distance, Rate, Time (6-8)
Stevens Institute of Technology

4/2
Introduction to Hands-On Astronomy
2: Stars and Galaxies (5-12)
*New Jersey Astronomy Center at
Raritan Valley Community College*

4/9
Elementary Science & Engineering
Connections - Sound (K-5)
Stevens Institute of Technology

4/11
Engineering is Elementary Life Science
2 (K-5)
Stevens Institute of Technology

4/11
Effective Methods in Teaching Math to
Special Education Students
(7-12)
*Center for Mathematics, Science
and Computer Education*

4/15
Carnegie Learning's Cognitive Tutor
(Math, 7-12)
Rowan University

4/18
Engineering is Elementary Earth
Science I (K-5)
Stevens Institute of Technology

MAY

5/7
Aquarium Adventures CD&ETM Unit
(Pre-K-2)
The College of New Jersey

5/7
Chemistry & Engineering - Properties of
Water (9-12)
Stevens Institute of Technology

5/12
Real World Problems in Earth Science
(9-12)
Stevens Institute of Technology

5/15
Physics & Engineering - Wave Propagation
(9-12)
Stevens Institute of Technology

5/20
Many Roads to Success: A Special
Education Conference for Math and
Science Educators (K-12)
County College of Morris

5/20
Back to the Moon: Challenges for Your
Students (7-12)
*New Jersey Astronomy Center at
Raritan Valley Community College*

5/21
Integrate Astronomy into your Science
Curriculum (6-12)
*New Jersey Astronomy Center at
Raritan Valley Community College*

5/28
Understanding Butterflies: Using This
Content Knowledge for Teaching
(K-6)
The College of New Jersey

5/30
Elementary Science & Engineering
Connections - Animal Adaptations (K-5)
Stevens Institute of Technology

JUNE

6/6
Engineering is Elementary Physical Science
3 (K-5)
Stevens Institute of Technology

6/9
Real World Problems in Earth Science
(6-8)
Stevens Institute of Technology

JULY

7/14 - 7/17
Connected Mathematics Summer Institute
(6-8)
Rowan University

AUGUST

8/4 - 8/6
TI-Nspire Hands-On Institute
Rowan University

8/18 - 8/22
Summer Institute for Novice Math
Teachers (6-12)
Rowan University



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