

Boosting Student Achievement in Math and Science

Susan Feinberg

In an effort to reverse the declining number of U.S. workers in the science, technology, engineering, and math (STEM) fields, the National Science Foundation (NSF) has sponsored several initiatives to strengthen and reform math and science education. NSF's Math and Science Partnership (MSP) is one example.

Launched in 2002, MSP is designed to improve K-12 student achievement in math and science; increase the number and quality of math and science teachers; and develop new ways to create a literate STEM workforce in the U.S.



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MSP awards competitive, merit-based grants to teams composed of higher education institutions, local K-12 school systems and their supporting partners. "The partnerships that have been forged are unique," says James Hamos, program director, Math and Science Partnership, National Science Foundation. "We are inviting faculty who are scientists, engineers, and mathematicians to help engage students in math and science who eventually become great teachers."

The Math and Science Partnership incorporates four key components:

- **Comprehensive partnerships** to implement change in K-12.
- **Targeted partnerships** to improve student achievement in a grade range or in a discipline.
- **Institute partnerships** to develop math and science teachers into district-based intellectual leaders and master teachers.
- **Research, Evaluation, and Technical Assistance (RETA)** activities.

In 2005-06, more than 700 school districts and 5,236 schools worked with MSP, involving 4.5 million students and 137,000 teachers of K-12 math and science. MSP has funded 52 partnerships and 37 RETA projects in 30 states and Puerto Rico. Twenty corporations have also participated.

There is evidence that MSP has enhanced student academic performance. In 2005-06, students who participated in the Rice University Mathematics Leadership Institute (MLI), which is part of MSP, achieved higher scores on the Texas state and the Stanford 10 mathematics assessments than students at the same schools who were not MLI participants.

"It's significant that students who were struggling with their studies, as well as high achievers, were impacted," says Anne Papakonstantinou, director of Rice University School Mathematics Project. "School districts across Texas are watching."