

Mathematics and Science Education

U.S. Department of Education

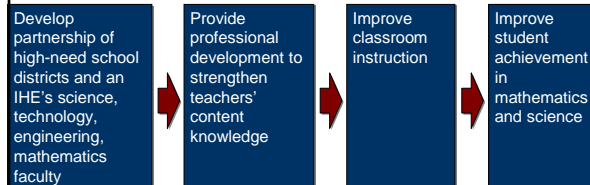


Mathematics and Science Partnerships: Summary of the FY2007 Annual Reports

U.S. Department of Education



Conceptual Model of Mathematics and Science Partnerships Program



Mathematics and Science Partnerships at a Glance

- Almost 60,000 teachers participated nationwide.
- Over 4,000 IHE faculty participated in ED MSP projects.
- Approximately 5,200 organizations partnered to form 575 projects across the country.
- Enhanced the quality of classroom instruction for nearly 2.5 million students.

MSP Funding FY 2007

- ED MSP provided \$182 million dollars through a formula to the states.
- State received awards ranging from \$906,246 to over \$23.6 million dollars.
- Projects received awards ranging from \$24,000 to 3.6 million.

Project Budgets from State MSP Grants, FY 2006		
Project budgets	FY 2007 Percent of projects	
\$100,000 or less	9%	
\$100,001 to \$200,000	43%	
\$200,001 to \$500,000	26%	
\$500,001 to \$1,000,000	18%	
\$1,000,001 or more	4%	
Did not report	0%	
Total	100%	

Characteristics of MSP Projects

- 56% led by LEAs
- 32% led by IHEs
- 16% led by "Other"
- The medium number of teachers served per project was 54. (Range from 2 to 1,540)
- An average of 7 IHE faculty participated per project.

Profession Development

- MSP projects reported using one of two main models for providing professional development for teachers:
 1. **The individual teacher model (79 percent)** – when teachers from a set of school or school districts participate as individuals in order to improve their own content knowledge and teaching skills.
 2. **The teacher leader or district models (21 percent)** – when teachers are trained to become mathematics or science leaders in their schools/districts.

Professional Development Models

Professional Development Model	Percent of projects (n = 575)	Total Average Hours		
Summer Institute only	1%	80		
Summer Institute with Follow-up	59%	100		
Focus on School Year Activities	40%	74		
Did not report	0%	--		

- 37 percent of projects focused on mathematics
- 30 percent of projects focused on science
- 33 percent of projects focused on mathematics and science.

Teachers' Content Knowledge Results

Percent of Teachers with Significant Gains In Content Knowledge, of Those Teachers with Pre-Post Content Assessments, Summed Across All Projects, FY 2007

Content area	Total Number of teachers served	Number of teachers with content assessments	Percent of teachers with significant gains
Mathematics content knowledge	34,567	11,696	68%
Science content knowledge	26,552	11,546	73%

Students' Content Knowledge Results

Percent of Students Scoring at Basic or Proficient or Above, of Students Taught by MSP Teachers And Assessed In Each Content Area, FY 2007

Content area	Total number of students taught by MSP teachers*	Number of students with assessment data	Percent of assessed students scoring at basic level or above	Percent of assessed students scoring at proficient level or above
Mathematics content knowledge	1,284,911	610,868	52%	45%
Science content knowledge	844,749	253,216	50%	49%

Evaluation Designs

- 2% Experimental
- 42% Quasi-Experimental
- 20% One group pre/post
- 14% Mixed methods
- 22% Other

Final Reports with Strong Evaluation Designs

183 Final Reports Submitted

- 63 projects reported experimental or quasi-experimental design.
- 37 completed both data on treatment and comparison groups.
 - Content Knowledge
 - Teacher Classroom Practice
 - Student Achievement

MSP Federal Fiscal Year 2007 Summary

- \$181 million in federal resources were granted to 575 projects to provide professional development to K-12 educators.
- The typical project provided professional development to 54 teachers, and involved 7 IHE faculty members from both STEM disciplines and Schools of Education, receiving 100 hours of PD in a year.
- The majority (80 percent) of teachers who participated in MSP projects were elementary and middle school teachers.
- A large majority of teachers made statistically significant gains in their content knowledge and teaching skills (68% math, 73% science).
- Quality of instruction improved for 2.5 million students throughout the nation.

Race to the Top/Other \$9.7B

- \$4.35B –Race to the Top Fund
- \$3.5B – School Improvement Grants
- \$650MM – Investing in Innovation (I3)
- \$650MM – Education Technology
- \$300MM – Teacher Incentive Fund
- \$250MM – Statewide Data Systems

Race to the Top -- \$4.35 Billion

- States are only eligible applicants. Half of funds go to high need LEAs.
- Two rounds of awards, with applications first available in November.
- Proposed Competitive Priority: Improving math and science education.

Four Assurances

- Develop rigorous college and career-ready standards and high quality assessments that are valid and reliable for all students.
- Establish preK-college and career systems that track progress and foster improvement.
- Improve teacher effectiveness and the equitable distribution of high quality teachers
- Intensive support for lowest performing schools.

Set Aside for Assessments

- \$350 million is set aside for development of assessments for Common Core State Standards.
- Mathematics and Reading.

School Improvement Grants

- Formula grant funds to states to support the lowest performing schools.
- Primary focus on mathematics and reading.

Investing in Innovation (I3)

- \$650 million over four or five years.
- Eligible applicants are LEAs and Non-profits in partnership with LEAs or consortium of schools.
- 20 % private sector matching fund
- Conduct an independent evaluation
- Cooperate with Technical Assistance
- Share results broadly

I3 Types of Awards

- Development:
--up to \$5 million, reasonable research base, able to further develop and scale.
- Validation:
--Up to \$30 million, moderate evidence, able to scale to regional or state level.
- Scale-up:
--Up to \$50 million, strong evidence, able to scale national, regional, or state.

i3 Proposed Priorities

- Must be designed to improve achievement in high-need students.
- Must address one or more of the 4 Assurances.
- May address: early learning, college access and success, unique needs of students with disabilities or are ELL, serve rural schools.

Education Technology

- \$650 million formula grant to states that is then sent out to LEAs.

Teacher Incentive Fund

- \$300 million for competitive grants
- To support a variety of performance-based compensation systems that reward for increases in student achievement, numbers of effective teachers in hard to staff schools, filling shortages such as math and science.
- Must establish differentiated levels of compensation based on student achievement and classroom evaluations.

Statewide Data Systems

- \$250 million to improve data systems and their integration.

Summary

- Unprecedented resources beginning to be available.
- Mathematics improvement embedded in most of these initiatives.
- How can we take advantage of this opportunity?

Contact Information

Miriam Lund
Program Officer
United States Department of Education
Miriam.Lund@ed.gov
(202) 401-2871