

## Northern New Mexico Math and Science Academy

Issue No. 49

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### Program Coordinator

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### Program Description:

MSA is an intensive three year long professional development program for K-12 teachers that requires them and their sponsoring districts to commit to attend a three week Summer Institute each year for three years and to interact with the LANL-provided MSA Master Teachers during the school year at their locations and in related community meetings. About 300 teachers from five NNM school districts (Española, Tierra Amarilla/Chama, Taos, Pojoaque, Mora) have participated in MSA over the last ten years; collectively, they instruct over 5000 students. MSA also offers an optional Master of Arts in Teaching Math and Science degree program in cooperation with New Mexico State University; 46 teachers have also completed this intensive 2 1/2 year degree program through 2008 and others remain in the program.

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### Primary Outcomes:

1. Increased teaching skills and capacity in participating school districts
  2. Increased number of Masters degreed teachers in districts
  3. Increased skills in pedagogy in general and mathematics in particular
  4. Increasing annual math and other proficiency scores of students taught by MSA-trained teachers
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### Areas Served:

Mora; Rio Arriba; Santa Fe; Taos; Other;

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### Grade Level:

Elementary School (K-6th grade); Middle School (7-8th grade); High School (9-12th grade);

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### Leading Organization:

STBPO-EPDO

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### Program Address/Mailstop:

c/o STB Education & Postdoc Office Program  
Manager  
Mail Stop M709

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### Number of Individuals Served by the Program per Fiscal Year:

113 in core reform math program and Summer Institute in 2008  
37 enrolled in optional Master of Arts in Teaching Math & Science degree program in 2008  
38 enrolled in new Educational Assistant program with NNMC in 2008  
28 enrolled in Irrational Number Institute in 2009

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**Year Program Started:**

2000

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**Program Partners:**

Private businesses and foundations  
New Mexico State University, Northern NM College, UNM, NM Tech

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**Funding received:**

\$695,000

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**Resources/Materials provided to program participants:**

Formal training in mandatory three week Summer Institute  
School-year training and observations in their classrooms  
MSA Days and Celebrations of Learning in their communities  
MSA training materials, textbooks and other learning aids  
Optional Master of Arts in Teaching Math and Science degree program  
Special weekend workshops in Irrational Numbers and other topics

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**Other funding sources:**

MSA private sector business contributors vary annually  
MSA is seeking grants from various national organizations currently  
IBM and Microsoft donated computers and software to MSA in 2008

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**Program Cost:**

\$945,000 in 2009

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**Other learning objectives:**

Over 200 hours formal professional development annually times  
three years for all teachers in core MSA program  
Masters Degree teachers devote additional approx. 150 hours annually  
Special optional programs like the Irrational Number Institute  
devote another 25 hours for the program

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**Best Practices:**

yes  
Received the DOE Secretary EEO/Diversity Best Practices Award in  
June 2008  
Noted as a national Best Practice model for rural K-12 STEM  
teacher professional development by NM Senators Bingaman and  
Domenici in 2007&8  
MSA was a featured component of the LANL STEM Workforce  
Development Programs presentation given to four national  
education, supercomputing and technology transfer conferences in  
2008 by the Program Manager  
The NM Legislature LANL Oversight Committee considers MSA to be a  
NM best practice as articulated by Speaker Ben Lujan and other  
members when MSA was formally reviewed in October and December of

2008

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**How program outcomes are accessed:**

Used the UCLA CRESST evaluation center first 7 years  
Contracted with NMSU for evaluations last 2 years; results  
unsatisfactory  
Seeking new evaluation contractor in 2009

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**Reporting Requirements:**

MSA is evaluated informally and formally by LANL, LANS (Community  
Commitment Plan), the NM Legislature, the NM PED, and other  
funding sponsors

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**Cost per participant:**

About \$10,000 per participating teacher annually

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**Participant Application Process:**

Any northern NM school district can send an observer team of  
principals/teachers to the MSA Summer Institute to learn the process  
Districts interested in establishing their own MSA programs  
should contact the MSA program manager for recommendations and  
assistance

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**Program Recruitment Initiatives:**

MSA is not seeking additional districts to serve directly with  
its limited current staff and funding; see application process  
above for potential program replication elsewhere in NNM or NM or  
nationally

MSA is presented in several K-16 education conferences annually  
MSA serves as a model best practice for the NM Public Education  
Department Math and Science Bureau, of which LANL is a member on  
their Advisory Committee

MSA participates in northern NM and statewide education meetings  
and conferences

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**Targeted Diversity Groups:**

American Indian and/or Alaskan Native; Hispanic and/or Latino; Women and/or girls; Economically  
disadvantaged;

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**Type of Program:**

Teacher/Faculty Professional Development

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**Program Website/URL:**

<http://int.lanl.gov/education/teachers/>

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**Projected Length of Program:**

Year - round

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**Primary funding source:**

Government;

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**Program Evaluation:**

Formal/External;

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