Effective University/School District Collaboration: The Rice University School Mathematics Project



RUSMP Goals

- Work with Houston-area teachers of mathematics to improve their mathematical knowledge.
- Implement and create national, state, and local reform-based curriculum in education.
- Promote and model student-centered learning of mathematics.

RUSMP Goals

- Encourage the use of technology and manipulatives in the teaching of mathematics.
- Provide an awareness of minority and gender issues.
- Develop the leadership capabilities of mathematics teachers that enables RUSMP to have a multiplied impact on Houston-area teaching.







RUSMP master teachers



Mathematics content and pedagogy



Curriculum development





RUSMP support teachers



Summer program for students

Collaborative planning





Keynote presentations from distinguished mathematicians and educators

Activities led by RUSMP alumni, master and support teachers





LEARNING PLAN

Exploratory Activities	CONCEPT
Concept	Materials
Development	and
Activities	Resources
Basic Facts and	Originality
Standard	and
Algorithms	Creativity
Formalized	Student
	Products
Assessment	Written
	Verbel
	verbai
Related TEKS/TAKS	Kinesthetic
	Visual

 $\textcircled{\sc c}$ 1999 by the Rice University School Mathematics Project

The RUSMP Geometry Module

A comprehensive teacher training module which

- effectively assists teachers in developing a deeper understanding of the concepts in Geometry.
- helps teachers develop pedagogical skills.
- was recognized by the Math Forum as exemplary curriculum for mathematics educators.





Academic-Year Programs







Institutes









Collaborations











Evidence of the Summer Campus Program's Effectiveness

- Increased student learning and achievement in mathematics
- Improved teacher knowledge of mathematics
- Increased teacher efficacy

Evidence of Urban Programs' Effectiveness

Increased student interest in mathematics

Increased student achievement on TAKS

Reduction of student drop-out rates

Increased collaboration among teachers

Recognition of RUSMP's Work

National Staff Development Council cited RUSMP as one of the top professional development programs in mathematics in U.S. for its impact on student achievement in What Works in the Middle (1999), What Works in the Elementary School (2002), and What Works in the High School (2002).

Recognition of RUSMP's Work

RUSMP was cited as a model program for its response to teacher preparation and teacher quality in Texas in Advanced Mathematics Educational Support: Support, Recommendations, and Resources for Facilitating Collaboration, **Between Higher Education Mathematics** Faculty and Texas Public High Schools (2003).

Recognition of RUSMP's Work

RUSMP was highlighted in the report, Identifying High Performing Texas Schools and Their Methods of Success in Middle School Math and Algebra I End-of-Course Performance (2001), written for the Texas Education Agency.



The National Science Foundation Mathematics Science Partnership



Rice University was awarded a \$3.8 million grant to establish a Mathematics Leadership Institute (MLI).

MLI Goals and Expected Outcomes

- Develop school-based intellectual leaders in mathematics.
- Implement high-quality mathematics instruction school-wide.
- Increase mathematical achievement.
- Reduce achievement gap in mathematics of diverse student populations.
- Impact instructional practices of higher education faculty, post-docs, and graduate students.



Visit the Rice University School Mathematics Project web site: http://rusmp.rice.edu