The Rice University School Mathematics Project
Building Mathematics Leaders in PreK-12 Education
What is the Rice University School Mathematics Project?
RUSMP Goals

• Work with Houston area teachers of mathematics to improve their mathematical knowledge.

• Promote and model more effective teaching of mathematics that involves greater student involvement in the learning process.

• Encourage the use of technology and manipulatives in the teaching of mathematics.
RUSMP Goals

• Promote the involvement of classroom teachers in professional organizations and in the mathematics/school reform process.
• Provide a forum for communication and collaboration among teachers, university mathematicians and scientists.
• Form a local mathematics education network.
RUSMP Goals

• Implement national, state, and local reform efforts in mathematics education.
• Create innovative curriculum in mathematics.
• Provide an awareness of minority and gender issues.
• Creates a multiplier effect by developing the leadership capabilities of mathematics teachers that enables RUSMP to have a significant impact on Houston area teaching.
RUSMP Teaching Goals

• Develop important mathematical concepts.
• Emphasize student thinking, activities, creativity, and products.
• Make connections with the real world, with other disciplines, and in particular, with science.
• Integrate manipulatives, calculators, and computers.
• Foster discovery and group activities.
<table>
<thead>
<tr>
<th>Exploratory Activities</th>
<th>CONCEPT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concept Development Activities</td>
<td>Materials and Resources</td>
</tr>
<tr>
<td><strong>Basic Facts and Standard Algorithms</strong></td>
<td><strong>Originality and Creativity</strong></td>
</tr>
<tr>
<td>Formalized</td>
<td>Student Products</td>
</tr>
<tr>
<td><strong>Assessment</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Related TEKS/TAKS</strong></td>
<td>Written</td>
</tr>
<tr>
<td></td>
<td>Verbal</td>
</tr>
<tr>
<td></td>
<td>Kinesthetic</td>
</tr>
<tr>
<td></td>
<td>Visual</td>
</tr>
</tbody>
</table>
The RUSMP Summer Campus Program

- RUSMP Master Teachers
- Mathematics Content and Pedagogy
- Curriculum Development
The RUSMP Urban Program

• RUSMP Support Teachers
• Collaborative planning
• Summer program for at-risk students
Academic-Year Credit Courses to Support Standards-Based Instruction

• Education 595: Topics in Contemporary Algebra
• Education 585: Contemporary Topics in Middle School Mathematics
Academic Year Non-Credit Courses to Support Standards-Based Instruction

- Algebra for Elementary Teachers
- Geometry for Elementary Teachers
- Algebra for Middle School Teachers
- Geometry for Middle School Teachers
- Advanced Topics for Middle and High School Teachers
- Calculus for High School Teachers
TEXTEAMS Mathematics Institutes

- Algebra I: 2000 and Beyond
- Geometry Across the TEKS
- Algebra II/Precalculus
Technology Support

• Teachers Teaching with Technology, T³, training for middle school, Algebra I and Calculus teachers

• District-level staff development for middle school, Algebra I, Geometry and Algebra II teachers

• Individual support for teachers in the use of calculator technology
Fall and Spring Networking Conferences
Impact of RUSMP’s Summer Campus Program

• Nearly 3,000 Houston-area teachers have participated.
• Student learning and achievement in mathematics have improved.
• Teacher knowledge of mathematics has increased.
• Teacher classroom beliefs and practices are better aligned to the NCTM Standards.
Impact of RUSMP’s Urban Programs

- Increased student interest in mathematics
- Increased student achievement on TAAS
- Reduction of student drop-out rates
- Increased collaboration among teachers
Recognition of RUSMP’s Work

• The National Staff Development Council named RUSMP’s Urban Program as one of the top 7 professional development programs in mathematics in the United States (1999).

• 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.