

How Teacher Education Programs
Can Produce Knowledgeable
Math Teachers:
What the THECB and the State
Legislature Can Do

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Training Issues

Teachers' training courses

- Require all prospective teachers in Elementary, Special Education, or Early Childhood licensure programs to take at least 3 math courses taught by professors with a master's or higher degree in math
- Require use of a textbook authored or co-authored by mathematicians

- Gather information from teacher training institutions on the following:
 - The number of *math* courses required for each of these programs
 - Get copy of syllabi for the math courses
 - Get copy of textbooks used
 - The number of *math methods* courses required in these programs
 - Get copy of syllabi for the math methods courses
 - Get copy of textbooks used
- Pay a mathematician to evaluate the math content of these syllabi and textbooks

Teachers' Calculator Woes

- Arrange for Texas Instruments in cooperation with education school faculty to provide its calculator-training program for all prospective elementary and special education teachers in their math methods courses.
- Without this training, most teachers will need costly professional development to teach them the proper use of calculators in the elementary school

Teacher Evaluations

- Require training programs to use a standard evaluation form to evaluate student teachers who plan to teach math at the middle and high school levels
 - Have this evaluation form developed jointly by the:
 - Texas Education Association
 - School of Education Faculty and
 - University Mathematicians
 - Pilot the use of this evaluation form to predict teacher effectiveness, using value-added measures two or three years later

- For the supervision of student teachers who are planning to teach middle or high school mathematics, require one supervisor to be a member of the mathematics department at the college or university

Changes in Licensure Programs and Tests

- Require a separate subject matter licensure test in reading for elementary, early childhood, and special education teachers
- Ensure that this test fully addresses the five major components of research-based reading instructional knowledge highlighted by the National Reading Panel

- Require a second subject matter test for these three groups of teachers, fifty percent of which should address the mathematical knowledge needed for teaching K through Grade 6
- There should be a separate cut score for each half of the test: one cut score for the math half, and a second cut score for the other half of the test (assessing science, history, geography, and economics)

- Encourage development of licensure programs for elementary math teachers for the third through the sixth grades
- Encourage reorganization of school schedules in the elementary school to allow for dedicated subject matter teachers in math, science, history/geography and foreign languages
- Use general elementary teachers for teaching reading, English language arts, and other subjects in K-6 if they pass a test of research-based reading instructional knowledge