

# Archived Information

Massachusetts Department of Education

## **GOAL: IMPROVING TEACHER QUALITY**

### **ACTIVITY: SINGAPORE MATHEMATICS PROJECT**

**SUMMARY:** This project began in the summer of 2000 as a Department-funded teacher training institute directed by mathematician Richard Bisk, a professor at Worcester State College, in response to a Department request for a mathematician willing to pilot professional development for elementary and middle school teachers using the Singapore Mathematics curriculum, to be followed by its implementation in their classrooms, together with continuing professional development during the school year. Six teachers in various grades in North Middlesex Regional School District (comprising three towns north of Worcester) volunteered for training and piloted the curriculum in their classes the following school year with full administrative support. The results were so promising that 11 more teachers at various grades volunteered to pilot Singapore Mathematics for the second year of the project and attended a training institute in 2001 directed by Professor Bisk, assisted by three outstanding teachers from the first cohort he had trained. Students in these teachers' classes overall achieved higher scores on the statewide mathematics assessment in grade 4 and 6 than students in classes using other programs, encouraging the voluntary spread of the pilot project to 55 classrooms in K-8 in North Middlesex for 2002-2003 after a third training institute for these additional teachers during the summer of 2002. About half of the K-8 classes in North Middlesex are now using the Singapore Mathematics Curriculum.

Because the project has been enthusiastically supported by North Middlesex educators and results on statewide assessments continue to be promising, Commissioner of Education David Driscoll set forth as one of his personal goals for 2002-2003 a Singapore Mathematics Initiative to encourage more districts throughout the state to pilot the curriculum. Department staff gave two informational sessions, one in December and one in late January, to recruit schools willing to pilot the curriculum in at least two classrooms in 2003-2004, preferably in the primary grades. About 7-10 school districts have volunteered to participate in the Initiative, and Department staff are now working out final plans for a trainer of trainers session, to take place in the early summer under Professor Bisk, and a summer training institute for about 40 teachers.

**PURPOSE:** The Department seeks to upgrade the mathematical knowledge of elementary and middle school teachers and to enhance student achievement in mathematics. Use of the Singapore Mathematics Curriculum achieves both purposes. It provides for the professional development of teachers, giving them a conceptual understanding of the mathematics they teach in K-8. It also enables them to use a first-rate mathematics curriculum in their classrooms, one that is both teacher and student friendly and can be easily understood by parents.

**ACCOMPLISHMENTS SO FAR:** So far, the results are more than promising. Large numbers of North Middlesex students are moving up to Proficient and Advanced levels on our statewide mathematics tests, and (most heartening) special education students are moving up from the Warning/Failure level on these tests to the next level (called Needs Improvement).

**PLANS FOR THE NEXT 12 MONTHS:** The Department is working out a research design that will enable us to determine how well the new classes piloting the Singapore Mathematics Curriculum are doing in relation to other classes at comparable grade levels in the state. We are planning to locate appropriate comparison classes in advance (hopefully within the same school system in order to keep demographic variables the same), as well as at the end of the academic year in school districts piloting other elementary mathematics curricula.