

Archived Information

Jason Foundation

The Mathemagica Project

The goals of the Mathemagica project are to (1) deepen teachers' understanding of mathematics and build confidence in their ability to teach math; (2) encourage and support classroom uses of technology for mathematics learning; and (3) create online communities through which teachers learn together, reflect on teaching and student learning, and support one another.

The Mathemagica project currently serves teachers (grades Kindergarten through 9) responsible for mathematics instruction in urban districts around the country. The online professional development program provides teachers with interactive and visual models of abstract and complex mathematics concepts through applets, small software applications. Many of these applets, designed and developed by the project team for the project, are in the alpha stage. Specifically Mathemagica has developed:

- A 2-year professional development program that helps teachers to grasp key concepts in mathematics and facilitates their interaction with one another online.
- A set of 5-week inquiry-based courses that develop specific mathematical content typically taught at different grade bands: K-2, 3-5, 6-8.
- A library of 11 completed (4 more in development) Multimedia Mathematical Investigations (MMIs), or Web-based applets, on core concepts underlying number sense, operations, measurement, geometry, algebra, data collection and analysis, and probability.

SRI is evaluating the Mathemagica project to measure program implementation and program outcomes. The evaluation is based on a quasi-experimental design using a random sample of teachers, matched control and experimental group of teachers, and pre- and post-tests. The group of teachers will be matched along the following qualities: technology proficiency, grade level, years of experience, and extent of mathematics background. To measure the implementation process, SRI will use a pre- and post-teacher survey, an analysis of online discourse, and a limited number of observations and interviews to provide examples. To measure program outcomes, SRI will use two pre- and post-assessments.