



Project Summary 2008-2014

The Region 11 Math and Science Teacher Partnership (MSTP, www.region11mathandscience.org), part of a statewide K-12 professional development initiative, provides in-depth content and pedagogy support in the STEM areas for teachers in the seven-county Minneapolis-St. Paul metro region. During the past six years (2008-2014), more than 2000 teachers have received in-depth content training and learned classroom application strategies to support and improve effective teaching practice.

The table below provides a summary of training topics and participation for 2008-2014.

School Year Training Topics/Participants	Districts	Schools	Teachers	Students Impacted (first year)
2008-2009 ➤ Algebra Connected to Number, Grades 6-8 (517)	34	59	517	53,541
2009-2010 ➤ Algebra Connected to Number, Grades 3-5 (208) ➤ STEM Integration, Grades 7-12 (79)	20	28	287	13,425
2010-2011 ➤ Algebra Connected to Number, Grades 6-8 (112) ➤ The Nature of Science and Engineering, Grades 3-6 (220)	26	67	332	39,155
2011-2012 ➤ Mathematical Reasoning with Rational Numbers, Grades 6-8 (237) ➤ The Nature of Science and Engineering, Grades 3-6 (113) ➤ Life Science, Grades 7-12 (119)	27	104	469	38,990
2012-2013 ➤ Expanding Children's Mathematical Reasoning using Rational Numbers, Grades 3-5 (269) ➤ Physical Science, Grade 9 (48)	20	39	317	13,756
2013-2014 ➤ Expanding Children's Mathematical Reasoning using Rational Numbers, Grades 3-5 (228) ➤ Number Sense, Grades K-2 (48) ➤ Earth Science, Grade 8 (21)	24	39	297	10,380
	48 in region	336	2219	169,247

Training Structure and Technical Assistance

Schools who commit to the training structure send a team that consists of everyone who teaches math or science at the training grade levels. Team members (1) attend five full days of content training throughout the year, (2) agree to apply new learning in their classrooms, (3) use assessment tools to determine student growth in understanding, and (4) meet weekly in professional learning communities (PLCs) to discuss student progress and share strategies that work to reach all students. A variety of technical assistance from the partners also supports the implementation of systemic change to improve mathematics and science learning within districts and schools.

Partners

Training and technical assistance is designed and delivered through a substantial partnership of higher education institutions, school districts, regional education agencies, and SciMath MN. Mathematics and science content and research expertise is provided by three higher education partners; the University of Minnesota STEM Education Center, Normandale Community College and Hamline University, and by SciMath MN. Project management and coordination with school districts is provided by two regional education agencies, Metro Educational Cooperative Service Unit (MetroECSU) and the Grants and Research Office (GRO) of Intermediate District 287 and Northeast Metro 916. The Columbia Heights district serves as a high-needs school partner, providing project oversight as a member of the project Design Team, action research on training implementation via participating mathematics and science teachers, and PLC facilitation by teacher leaders.

Results

Increases in both student and teacher performance documented as part of the formal evaluation of the project each year confirm the strengths of the model. Pre and post-training assessments of teacher content knowledge, surveys about teacher beliefs and attitudes regarding mathematics and science, and classroom observations provide evidence of growth in content knowledge and pedagogy. Analysis of Minnesota Comprehensive Assessment student scores show an increase in the number of students designated as proficient in mathematics and science.

Future Directions

The reputation of Region 11 MSTP and the success of the training is affirmed by the number of schools and districts that have chosen to participate. Of the 48 school districts located in the region, 44 have participated in MSTP mathematics or science training during the past five years. Thirty-two school districts have enrolled teacher teams in at least two different training topics and years. Additionally, 16 private and charter schools have participated in training, with eight schools participating in multiple topics.

Given the high degree of participation and satisfaction, the partners of Region 11 MSTP stand ready to deliver additional training in high needs math and science topics and to scale up to reach more teachers in our state. The solid partnership combined with a proven training and support model is a strong structure for STEM success.

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