

Everyday Mathematics® Success Stories



Burnsville-Eagan-Savage District 191 Proves Effectiveness of Professional Development Training

Independent School District 191 serves the cities of Burnsville, Eagan and Savage in the metropolitan Twin Cities area. Located approximately 10 miles south of Minneapolis/St. Paul, these three small cities have evolved from frontier and farming communities into burgeoning suburbs over the past 50 years.

The district enrolls 10,700 students in Grades K–12 and operates 10 elementary schools, 3 junior high schools and 1 senior high school. The increasingly

diverse student population is 76% Caucasian, 11% African-American, 8% Asian-American and 4% Hispanic. Approximately 22% of the students qualify for the federally funded free and reduced-price lunch program.

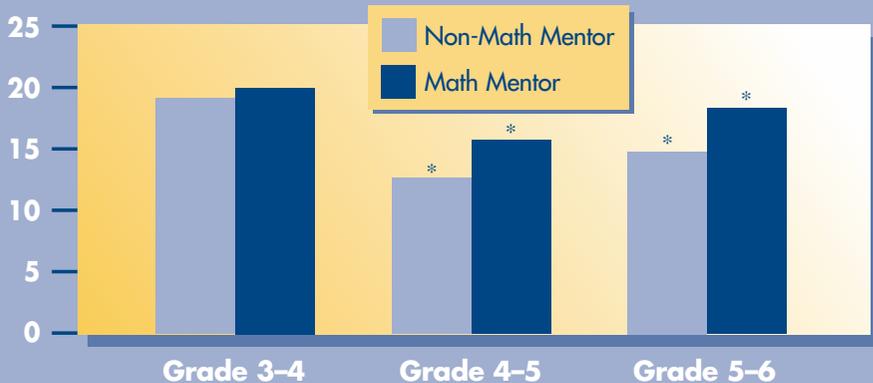
Strong Foundation

After deciding to adopt *Everyday Mathematics* as the district's elementary math curriculum, District 191 administrators were committed to providing professional development

to ensure a strong foundation for a successful adoption. "Teachers with true knowledge of the mathematical content in *Everyday Mathematics* are committed to implementing the curriculum in their classrooms," observes Sandi Novak, who is the Assistant Superintendent of Learning and Teaching in the district.

The need for professional development was matched by funding through a Science Math Partnership Grant available through Title II-B of the federal No Child Left Behind Act. The grant required District 191 to partner with a university mathematics department and to evaluate the effectiveness of the professional development training. To meet these requirements, District 191 partnered with the University of Minnesota and the Colleges of St. Olaf and Augsburg Departments of Mathematics. The district contracted with the Center for Applied Research and Educational Improvement (CAREI) at the University of Minnesota to conduct an independent evaluation of the project.

Average ITBS "Change" Score by Grade Band
Math Mentor vs. Non-Math Mentor Classrooms



* Statistically significant difference at 95% confidence level

Grade Band		Number students	Average "change" score
2004: Grade 3–	Math Mentor classrooms	189	19.91
2005: Grade 4	Non-Math Mentor classrooms	426	19.06
2004: Grade 4–	Math Mentor classrooms	142	15.49*
2005: Grade 5	Non-Math Mentor classrooms	497	12.80*
2004: Grade 5–	Math Mentor classrooms	360	18.25*
2005: Grade 6	Non-Math Mentor classrooms	335	14.96*

* Statistically significant difference at 95% confidence level

Math Mentors

The professional development model designed by District 191 focused on preparing approximately 70 teachers, one at each grade level at each school, to become Math Mentors. During the 2003–2004 school year, the Math Mentor teachers began working with the *Everyday Mathematics* curriculum, teaching the program in their classrooms and attending training sessions. Over

the summer of 2004, the Math Mentor teachers received a total 40 to 50 hours of training.

In fall 2004, all elementary classrooms in district schools were using *Everyday Mathematics*, with the Math Mentor teachers providing support to their colleagues who were just starting with the program. Over the summer of 2005, approximately 200 non-mentor teachers received intensive training in *Everyday Mathematics*.

This far-reaching and in-depth professional development opportunity for the district's teachers was created by district math coordinator Sue Wygant who partnered with local math consultant Nancy Nutting. In addition to planning the Math Mentor program, Wygant and Nutting helped train all of the teachers. "Without their assistance and keen attention to research and detail, we would not have been able to accomplish all that we have," states Novak.

Evaluation Study

The overall goal of the evaluation study was to determine the impact of the Math Mentor professional development program on student achievement, teacher experiences and classroom environment. The Center for Applied Research and Educational Improvement designed a study methodology that included analysis of student test scores, teacher surveys and classroom observations.

Students in District 191 take the Iowa Test of Basic Skills (ITBS) in the fall of each academic year beginning in the fall of Grade 3. Students that had test scores from two consecutive years of testing were included in the analysis, for example a Grade 3 student who took the test in fall 2004 and who also took the Grade 4 ITBS in 2005. The amount of change between the first and second administration of the ITBS was calculated for all students that took the

test both times. Scores were further separated into categories based on students in Math Mentor classrooms and those in non-Math Mentor classrooms.

The findings show that students in Math Mentor classrooms averaged higher change scores across all three grade-band groups. A statistically significant difference was found between the Grade 4-to-5 and the Grade 5-to-6 groups which shows that students in Math Mentor classrooms increased their composite mathematics standard scores on the ITBS at a rate greater than that of their peers in non-Math Mentor classrooms.

Teacher Survey Results

The Fall 2005 *Everyday Mathematics* Implementation Survey included questions on curriculum implementation, perspectives on the mentoring experience, demographic descriptors and overall impressions. The timing of the survey in November 2005 meant that the Math Mentor teachers had been implementing *Everyday Mathematics* for two school years while non-mentor teachers had one year of experience with the program. Approximately 60% of District 191 teachers in Grades K–6 responded to the survey allowing for the comparison of responses between Math Mentor teachers and non-Math Mentor teachers.

Overall, the survey found that District 191 teachers feel that students are having greater success and are more excited about mathematics when compared to previous classes. Teachers are very confident in the ability of *Everyday Mathematics* to help students meet grade-level standards and in their own abilities as teachers to accurately assess student learning.

"The enthusiasm that my students exhibit for math compared to previous programs is encouraging. My comfort level and effectiveness with the

program have greatly improved. The mentoring experience has been largely a positive one. Meeting with colleagues across the district from other schools has been the most rewarding portion of being a Math Mentor."

—*District 191 Math Mentor*

In analyzing the responses of Math Mentors and their non-Math Mentor colleagues, a number of statistically significant differences were indicated.

- A significantly larger share of Math Mentors agreed that their students this year are having greater success in mathematics when compared to students last year.
- Math Mentors expressed more confidence in the spiraling of curriculum topics embedded in *Everyday Mathematics*.
- Math Mentors were significantly more likely to agree that *Everyday Mathematics* helps them incorporate students' thinking while teaching.

Conclusions

The analysis of ITBS scores, teacher survey results and other elements of the study indicate that Math Mentor teachers positively impact student achievement results and student attitudes towards learning mathematics. Intensive professional development training supports teachers in the classroom, allowing them to more fully implement the *Everyday Mathematics* curriculum and to assist students in achieving success.

For additional information on the *Everyday Mathematics* program, please contact us toll-free at 1-800-382-7670 and visit our Web site at www.WrightGroup.com.

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