

PENCIL Foundation

Math Partners

Final Report 2005-06

Overview

Now in its sixth year, Math Partners provides tutorial assistance in order to boost math achievement for struggling fifth- and sixth-graders in Metropolitan Nashville Public Schools. Working with students whose math scores fall below the national norm, volunteers engage them in hands-on activities designed to increase skills and concept mastery, foster enjoyment of math, and demonstrate its relevance to everyday life.

PENCIL Foundation recruits, trains and places volunteers in middle schools throughout the district. Volunteers meet weekly with groups of up to four students over an 8-week period or longer. Utilizing a curriculum developed by Metro Schools that focuses on eight essential math competencies, Math Partners parallels the middle school curriculum and reflects the essential skills and competencies that students need to master in order to pass the annual state-mandated TCAP tests.

An independent evaluation of the program was completed by Dr. Paul Chagas, Director of Assessment and Evaluation for Metro Schools. He concluded from his data analysis of student TCAP test scores that “Math Partners students [from 2004-05] made math achievement gains for the year that were 26% greater, on average, than the achievement gains made by classmates who were not involved in the program.” Students are placed in three categories based on TCAP scores: not proficient, proficient, and advanced. Dr. Chagas found that “The increase in proficiency was three times greater (19.7% vs. 6.4%) for Math Partners students [from 2004-05] than it was for students in the control group.”

Outcomes:

- A total of 255 middle school students were engaged in weekly math tutoring sessions during the 2005-06 school year.
- A total of 76 community and university volunteers helped in 20 middle schools spread throughout this 510 square mile school district.
- Services have been targeted at high-needs populations -- Ten of the schools served are designated Title I schools because of their high percentage of low-income students.
- Collaboration continues with on-going community efforts to target at-risk youth. Volunteers tutored middle schoolers in two especially high-needs communities through the Club Music City Miracle (MCM) After-School Program.
- Collaboration continues with the Meharry-Vanderbilt Alliance to promote African-American male mentorships that provide positive role models to young male students and support reading and math achievement.

- Volunteers assisted students enrolled in AVID (Advancement via Individual Determination), which is a nationally recognized program that provides academic support for underserved student populations so that they will succeed in a rigorous high school curriculum and be well prepared for college. Not only did university volunteers tutor students with much needed math skills, they also answered students' questions about the college experience.
- Surveyed volunteers observed noticeable improvements in student abilities. 92% of the volunteers reported "significant" or "very significant" improvements in their students' math skills. Teachers also reported that students demonstrated improvements. Students were especially receptive to activities that felt like "real life" experiences, such as ordering food and calculating tips.
- Collaboration continues with the Bethlehem Centers (FRC) Family Resource Center to address the needs of students in its community area. Many of the Meharry-Vanderbilt students have been especially effective mentors for middle school students in this low-income community.
- National research has demonstrated that one of the key elements to student success and dropout prevention is a mentoring relationship for individual students. This is particularly important for students who are not experiencing much academic success. 90% of the surveyed volunteers reported that the mentoring relationship developed between students and the Math Partner was an essential component of the program and many of the teachers concurred that they saw heightened confidence and interest in math as a result of the Math Partners Program.

Additional Comments:

It is particularly noteworthy that a number of volunteers are utilizing the Math Partners experience as an opportunity to consider mid-life career changes into teaching, such as Teach for America. As one volunteer stated after completing the Math Partners Program, "This experience has been wonderful. It is a confirmation in my decision to switch careers and enter the teaching profession."

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