

MATHEMATICS SUPPORT FOR STRUGGLING STUDENTS

CAMPUS

Boerne Middle School South
Recognized 2007-08

DISTRICT

Boerne ISD

*U.S. Blue Ribbon School
2007-08*

PROGRAM SUMMARY

The **goal** of Boerne Middle School South's program is to improve student performance in mathematics.

Key strategies of the program include the creation of a mathematics lab for identified low-performing students, intensive use of manipulatives and hands-on activities, and mid-year benchmarking to identify additional students for mathematics support.

Outcomes of the program include improved TAKS mathematics performance for all student groups.

EFFECTIVENESS

Before

In 2003-04, 93% of all students, 80% of Hispanic students, 94% of White students, and 64% of economically disadvantaged students passed mathematics TAKS, compared to the state average* of 65% for all students.

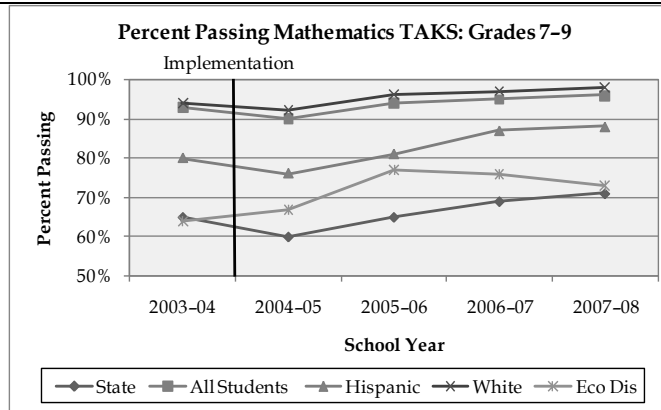
After

After implementation, mathematics performance for all student groups improved. In 2007-08, 96% of all students, 88% of Hispanic students, 98% of White students, and 73% of economically disadvantaged students passed mathematics TAKS, compared to the state average* of 71% for all students.

* State averages are weighted averages based on the grade level(s) of the practice.

Please take one minute to answer the feedback survey (six questions).

[Best Practices Feedback Survey](#)



Source: AEIS; TAKS Statewide Performance Results - 2003-2008
 Note: African American and Asian/Pacific Islander student performance in mathematics was not consistently reported in AEIS across the time period analyzed due to small numbers.

CONTEXT/IMPLEMENTATION

Demographics (2007-08)

Grade Levels Served	7-9	Campus Enrollment	823
Ethnic Distribution		Economically Disadvantaged	109 13.2%
African American	17 2.1%	Limited English Proficient (LEP)	10 1.2%
Hispanic	154 18.7%	At-Risk	71 8.6%
White	639 77.6%	Mobility (2006-07)	67 7.6%
Asian/Pacific Islander	10 1.2%		

Source: AEIS

Background

- District-supported campus implementation of Professional Learning Communities (PLCs), based on the Rick DuFour model, is used as a forum for discussing and designing responsive instructional programs.
- The campus currently serves grades 7-9.

- The campus began implementation of the practice in 2005-06.

Procedures

- In addition to regular mathematics classes, the campus included a mathematics lab period in the block schedule so that students struggling in mathematics could receive daily instruction. The mathematics lab class was offered at every grade level, and identified students took the lab as an elective.
- Students were identified for participation in daily mathematics instruction based on prior year's TAKS scores, grades, and teacher recommendations.
- The mathematics lab was taught by a certified teacher with support from a teacher's aide. Class size in each lab averaged 10-12 students so that instruction could involve extensive use of manipulatives and in-depth, hands-on activities. Additionally, staff paced instruction in the labs to align more closely with student needs and allow ample time for practice and application of concepts.
- The mathematics lab teachers also used America's Choice (Mathematics), which provides supplemental mathematics instructional modules aligned with state standards, and a computer-based software program called Understanding Math by Neufield Learning. Technology such as SMART Boards and other interactive classroom tools were also used in the mathematics lab.
- To identify additional students who might need support in mathematics, the campus administered a benchmark test mid-year, and, in January, began offering a daily 20-minute activity period for supplemental instruction. Students who were not already participating in the daily mathematics instruction but whose benchmark results indicated a need for supplemental support were assigned to a mathematics-based activity period. All students were assigned to an activity period led by campus teachers, either for TAKS support in a subject area, study hall, or enrichment activities.
- Teachers were available in the morning and after school for additional tutoring.
- Near spring testing dates, a two-week afterschool TAKS review activity called "TAKS Blitz" was arranged by subject area for students based on review of classroom data. The blitz was scheduled and organized by the campus' "TAKS Attack" PLC, a group of teachers from each subject area who collaborated to identify students and organize additional support in core subject areas. The mathematics TAKS Blitz was designed to provide engaging, game-based activities with prizes. Students from all grade levels who were identified by teachers as

needing extra support were invited to attend. Participation was voluntary, but teachers communicated with parents to explain the activity and encourage student participation. Supplies and snacks were provided for participants. Parents provided transportation.

- The Boerne Education Fund and Parent Teacher Organization (PTO) purchased manipulatives for mathematics support.

Lessons Learned

- Staff reported that transportation was a challenge for additional afterschool activities, such as the TAKS Blitz. Therefore, most supplemental support activities were built into the school day.
- Staff also reported that making activities fun and engaging so that students would want to participate was a challenge.
- District-promoted vertical teams and collaboration around curriculum alignment increased communication and cooperation within the campus' mathematics department, strengthening the implementation of the supplemental programming.

Other Campus-Reported Resources

- DuFour, R. B., Eaker, R., Karhanek, G., & DuFour, R. P. (2004). *Whatever it takes: How Professional Learning Communities respond when kids don't learn*. Bloomington, IN: Solution Tree.
- DuFour, R. P., & Eaker, R. (1998). *Professional Learning Communities at work: Best practices for enhancing student achievement*. Bloomington, IN: National Educational Service. Retrieved May 1, 2009, from <http://www.eric.ed.gov/ERICWebPortal/detail?accno=ED426472>
- Harris, S. (2005). *BRAVO teacher! Building relationships with actions that value others*. Larchmont, NY: Eye on Education.

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