

# Visual approach to math leads to big gains in Texas district

**ST Math, from the MIND Research Institute, helps students and teachers in Cypress-Fairbanks ISD**

**F**our years ago, the growing pains at Cypress-Fairbanks ISD in Texas were getting severe. The district was adding 4,000 students a year, and the percent of children from families living below the poverty level was growing by about 3 percent annually. The ELL population also was growing.

The growing pains were particularly noticeable in math, according to Jennabeth Bogard, the elementary math coordinator at Cypress-Fairbanks. The worst math scores in the district were coming from students in second and third grades.

Meanwhile, the enrollment growth was requiring the district to hire many new elementary school teachers, and administrators were having difficulty finding enough candidates with advanced math skills, according to Bogard.

"Elementary math teachers don't get a lot of real background in mathematics in universities," Bogard said. "The mathematics they know is basically the mathematics that they remember from their years in school."

Faced with the need to quickly improve student math scores at a time when many teachers needed their own professional development in math, the district in 2006 piloted ST Math, supplemental math instructional software that uses a visual approach.

ST Math was developed by the MIND Research Institute, a non-profit organization in California, based on many years of neuroscience and education research. The program's visual approach to math instruction is incorporated into self-paced activities that align to state standards and complements any third-party textbook. In addition to the K-5 version used in Cypress-Fairbanks ISD, there is a middle school edition for Algebra Readiness.

Over the past three years, Cypress-Fairbanks implemented ST Math for second and third grades in 31 of its 50 elementary schools, mainly targeting Title 1 populations. Students use the program for 90 minutes a week, mostly during school but sometimes before or after school hours.



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They work at their own pace on a series of animated games that have no verbal or written instructions; instead, the program is based on a visual, conceptual and problem solving approach.

"ST Math matches our philosophy about the way mathematics should be taught, which is visually," Bogard said. "It does that very well, and in fact, it also helps our teachers understand things about mathematics that they didn't really know."

The program's activities are hosted by an engaging penguin named Ji Ji, who silently indicates if a student has succeeded in a game by confidently crossing a little bridge. "I have a Ji Ji t-shirt and when I walk into a grocery store kids just swamp me and ask if I know about Ji Ji the penguin," Bogard said. "They love the program."

To help her track the students' progress with ST Math, MIND Research sends Bogard regular emails alerting her about classes where students are not getting enough time on the program. "We're awash in data, so these emails are very helpful," Bogard said. "They prompt me to send a note to the building principal, and that usually addresses the problem."

Evidence of the program's effectiveness can be seen in the district's test scores, according to Bogard. "We are seeing increased performance," she said. "We've seen improvement in our grade three state test scores each year, and the preliminary data indicates we are going to get a big jump this year."

Bogard added that ST Math has also had a beneficial side effect with teachers. "They are watching what the kids are doing," she said. "We think it has helped them understand some of these math concepts in ways that make them better teachers."

**For more information about ST Math, Please visit [www.mindresearch.net](http://www.mindresearch.net).**

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