

MIND Research Institute Helps Students Succeed in Math

MIND Research Institute is a nonprofit organization that uses research-based education programs to help students develop the foundational knowledge and problem-solving skills needed to succeed in math. The Cisco® Foundation has provided several grants to increase access to the programs developed by MIND and help ensure the competitiveness of U.S. students in math and science.

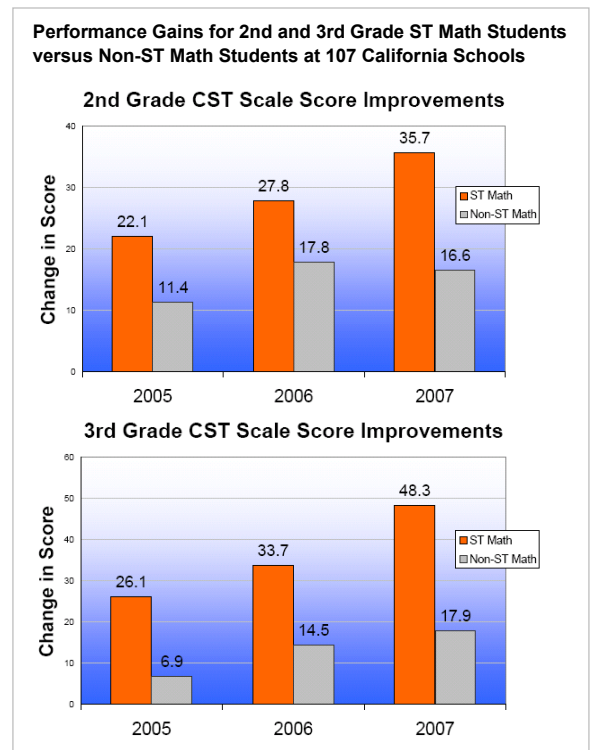
Background

MIND co-founders Dr. Gordon Shaw, Dr. Matthew Peterson, and Dr. Mark Bodner applied more than 30 years of research on cognitive processes to develop a K-5 educational software program that uses spatial temporal reasoning games to help students learn foundational math concepts and develop problem-solving skills. In 2000, MIND Research Institute began delivering their ST (Spatial Temporal) Math™ software to low income students at low performing, Title I schools in California. Since many Title I schools have a high proportion of English language learners, MIND felt that they could benefit the most from this non-language-based approach to learning math.

The ST Math program quickly proved to be highly effective at engaging students and raising math performance scores.

Since MIND’s research has shown a link between music and math skills, MIND also developed an ST Math+Music™ program that uses piano keyboard instruction and interactive games to help students develop spatial awareness, math skills, and musical abilities. In 2004, MIND received a grant from the Cisco Foundation to expand the reach of their ST Math+Music program.

“The MIND Research Institute has created what has proven to be a great tool for helping kids learn math and math concepts,” says Michael Yutzenka, executive director of the Cisco Foundation. “At a time when the arts are getting overlooked in light of the emphasis on standardized testing, a program that teaches music and math concepts sounded like a natural fit. The results of the program speak for themselves.”



Program Scalability and Sustainable Growth

Despite the success of MIND’s award-winning programs, their software-based delivery system was restricting their expansion due to costly and time-consuming service requirements. To overcome this challenge, the Cisco Foundation and Cisco provided a combined US\$1 million cash and

product grant in 2007 to help MIND transition to an online delivery system. “Our goal is to reach as many students as we can throughout the United States with our approach, which has been very successful for many types of learners,” explains Dr. Peterson, co-founder and senior scientist at MIND Research Institute. “Cisco’s investment has been instrumental in our ability to reach a broader audience.”

MIND Success Story

In 2007, Monte Vista Middle School in Camarillo, California conducted a pilot program of MIND’s Algebra Readiness program among 8th grade students.

Students who participated in the pilot achieved an average 14.4 increase on their CST Math scale scores from 2007 to 2008.

“By the end of the school year, many of my students were passing high school benchmarks,” says Monte Vista teacher Kathie Wilson. “But most importantly for me, my students were enjoying and understanding the wonder of mathematics and entering high school with confidence and better preparation for their subsequent math courses.”

With Cisco’s support, MIND has also expanded their educational offerings beyond K-5 math with algebra readiness programs for middle and high school students. “In most schools across the United States, Algebra 1 is huge stumbling block for students,” says Peterson, “and it tends to be where a downward slide occurs in scores. Students are often lacking the foundation in thinking and reasoning that they need for algebra,” he explains. “They can’t get by with procedural tasks such as memorizing formulas at that stage. They need to conceptually understand what they’re learning.”

“I think the programs developed by MIND have the potential to be a big part of the solution to the U.S. national math problem,” says Alex Belous, Cisco Education and Health Strategy manager. “They’re scalable, replicable, sustainable, research-based, and network-reliant. They represent all the basic building blocks of the Cisco Foundation’s educational philosophy.”

To help ensure the effective implementation of their programs, MIND has begun to increase their focus on teacher training and professional development opportunities. “Our programs are most effective when teachers are fluent in the material they’re teaching,” explains Peterson. “Since our software is net-based, we can gather vast amounts of data about the student learning process and what teachers need to know to be effective in the classroom.”

Impact and Future Plans

Since 2004, the number of elementary and middle school students who are participating in MIND educational programs has increased by 84 percent. MIND Research Institute is now reaching 75,000 students in more than 400 schools, with an annual growth rate of 30 percent.

In addition to building professional development programs for teachers, MIND plans to develop a full suite of middle school programs and curricula over the next five years.

Although MIND Research Institute has begun to explore the possibility of expanding into additional countries, they remain primarily focused on reaching as many students as possible in the United States, and leveraging technology to help students from all cultural and socioeconomic backgrounds develop critical skills for success in the 21st century.

To learn more, please visit www.mindresearch.net.