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UCI LEADS STUDY TESTING A NEW WAY TO LEARN MATH *Students in 50 Orange County Schools Will Use Visual Software to Deepen Understanding of Mathematical Concepts*

IRVINE, California, July 7, 2009 – An educational research team will head into Orange County schools this fall to test a different – and possibly better – method of learning math.

Michael Martinez, UC Irvine education professor, along with the Orange County Department of Education and the MIND Research Institute in Santa Ana, will use a \$3 million grant to study the benefits of teaching grade-school children – via software – to use spatial temporal reasoning, or visualization, to solve math problems. With computer games, children are able to see math concepts and solutions before trying to understand them through language and symbols. Students in second through fifth grades at 50 low-performing elementary schools will be involved in this largest-ever study of the technique.

“This approach offers the potential for transforming the way mathematics is taught by emphasizing intuitive, visual understanding of concepts and by, at least initially, minimizing technical symbols and terminology,” said Martinez, the study’s lead investigator. “The games are designed to be easy at entry level and then become incrementally more difficult so that the students can gain success and self-confidence, learn to like math and reduce their frustration and self-doubt.”

Instructional software will be supplied by the MIND Research Institute, a nonprofit organization dedicated to research on learning and the brain as it applies to K-12 math education. An outgrowth of neuroscience research at UCI, the institute has been developing and testing computer math games since 1999, when it conducted a pilot study of its Spatial Temporal Math program in Los Angeles. ST Math users typically improve their math proficiency level by 10 to 15 points. MIND’s programs now reach more than 100,000 students and 4,500 teachers in at least 500 schools across the U.S.

(more)

UCI Leads Math Study – Page 2

“Instructional software is not widely used in K–12 public schools,” said Ted Smith, MIND chairman and CEO. “This unique partnership brings together a large number of schools using cutting-edge, neuroscience-based math software in a consistent, disciplined education process; a skilled, objective study team; and the funding necessary to do a rigorous, credible study of the technique and its results.”

“If determined to be successful,” Smith added, “the software and the system have the potential to help millions of underperforming students succeed in math and fill the need for skilled young adults in industry and government. This study will be watched by educators nationwide as they look for a solution to the country’s math education problems.”

Funded by the U.S. Department of Education, this will be the first large-scale study of ST Math programs conducted with strict scientific rigor. Schools were chosen from the state’s lowest-performing 30 percent in math in the state of California. In each of the 50 schools, either the second- and third-graders or the fourth- and fifth-graders will use the computer games along with regular math lessons. Their progress over four years will be compared with control-group counterparts in other participating schools.

Researchers hope to measure changes in the amount and quality of math learning, as well as any differences that might arise based on gender, special needs, variance in spatial temporal abilities, number of years in the study and English-language proficiency.

“The Orange County Department of Education is pleased to be involved in this effort to enhance young children’s excitement about, and involvement in, mathematics,” said Stephanie Schneider, the department’s instructional services manager. “The information gained promises to show teachers and schools creative ways to expand involvement in mathematics at an early age.”

Peg Burchinal, education professor, and Lindsey Richland, education assistant professor, at UCI and Fran Antenore and Abby Daniels from MIND also will work on the study.

(more)

UCI Leads Math Study – Page 3

About the University of California, Irvine: Founded in 1965, UCI is a top-ranked university dedicated to research, scholarship and community service. Led by Chancellor Michael Drake since 2005, UCI is among the fastest-growing University of California campuses, with more than 27,000 undergraduate and graduate students, 1,100 faculty and 9,200 staff. The top employer in dynamic Orange County, UCI contributes an annual economic impact of \$4.2 billion. For more UCI news, visit www.today.uci.edu.

About the MIND Research Institute: The MIND Research Institute is a neuroscience and education research-based, nonprofit corporation headquartered in Santa Ana. MIND's distinctive visual approach to illustrating concepts and building problem-solving skills is the basis for innovative, research-proven math education programs for elementary and secondary schools. For more information, visit <http://www.mindresearch.net>.

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