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THE MORNING READ

Is This Irvine Man the Answer to the Country's Math Crisis?

Matthew Peterson's computerized penguin credited with raising math scores.

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The Orange County Register

Matthew Peterson arrives at his office wearing sport sandals and carrying a backpack. He is 35 years old. But with his baby face and hair gel, he looks about 15.

Is this the guy who is going to radically change the way your child learns math?

The answer is yes, if you're lucky.

Peterson is the inventor of hundreds of computer "games" that teach the basic building blocks of math – without relying on language. His method has been adopted by 270 schools, 51 of them in Orange County.

Principals as far away as Arkansas are signing up. The word is spreading: Whether your school is struggling or stellar, the MIND Research Institute is boosting scores. In a big way.

Consider this:

Madison Elementary, a Santa Ana school packed with kids from poor, Spanish-speaking homes, went from 26 percent proficiency in math five years ago to 70 percent proficiency today.

At the same time, Weaver Elementary, a school in the affluent Rossmoor neighborhood of Los Alamitos, took its not-too-shabby 78th percentile math proficiency scores to the dizzying heights of the 95th percentile.

The impressive results have attracted impressive supporters. Newport Beach millionaire Henry Segerstrom and billionaire Broadcom co-founder Henry Samueli, also of Newport Beach, are donors. Software giant Ted Smith, founder of FileNet (sold last year to IBM for $1.6 billion), is the full-time CEO of MIND – for no pay.

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SKILLS: Matthew Peterson, center, works with Madison Elementary 4th grade students Melissa Bravo, left, and Maria Bermjo on the math skills computer program he created called ST Math.

MIND is a nonprofit, relying on donations, grants and fees from participating schools. That means the paycheck Peterson draws, while nothing to sneeze at, isn't as big as it could be if he chose to use his talents in the private sector.

This is a guy who scored a trifecta at UC Irvine after high school, earning three degrees simultaneously in electrical engineering, biology and Chinese. He followed that with a Ph.D. from UC Berkeley in neuroscience. Smith calls Peterson one of the brightest minds he's ever worked with in the computer industry.

"Success in getting people to learn is way more important than success that is monetary," Peterson says. "I'm perfectly happy."

Spoken like the true words of a man who was born on an Indian reservation in Blackfoot, Idaho, where his parents were living among and assisting the Native Americans.

Peterson and his little sister grew up traveling with their dad (a doctor) and mom (a mom) all over the world, often to poorer countries.

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RAISING SCORES: A Madison Elementary student works on her math skills using a computer program featuring JiJi the Penguin.

MIND Research Institute

Total revenue: $4.8 million
Total expenses: $4.3 million
Program spending: $3.6 million (83 percent)
Management spending: $313,337 (7 percent)
Fundraising: $416,695 (10 percent)
Net assets: $391,769

Source IRS, Form 990, 2006

But after college, it dawned on him that the kids he could best help, those he could best identify with, were right here. Truth be told: Peterson struggled in elementary school.

His mother recalls a second-grade teacher who berated him for not performing well. Kathy Peterson pulled her son out of school for third grade, thinking: "His self-esteem is more important than when he learns to read." Peterson was soon diagnosed with a mild form of dyslexia. His father and a Montessori tutor worked with him for a year so that he returned to public school with the tools he needed to succeed.

But changing the way he learned made all the difference. And he never forgot it. Nor did he forget the frustration he felt as a kid falling behind.

Years later, at UCI, Peterson was an intern for Gordon Shaw, who was researching how music can stimulate learning. Peterson began inventing computer games that use spatial-temporal reasoning, the same reasoning used to learn music, to teach math concepts.

A Compton elementary school agreed to be his guinea pig for one year. Math scores jumped 20 percent. Fired up, Peterson set out to create a curriculum.

Today, students in MIND spend two 45-minute periods a week on computers. They must master one game before they can move on to the next. So they have to learn the math to win the game. But they move at their own pace, unlike a traditional math class where the teacher moves on regardless of whose head is still spinning.

Almost all of the games involve a waddling, rather subdued penguin named JiJi that Peterson dreamed up. Students must help JiJi fill a ditch, build a bridge, cross a river or overcome other obstacles. The penguin is so popular, the institute sells JiJi T-shirts online. Some schools have written songs and odes to JiJi.

"If you ask any child in my school what their favorite subject is," says Marti Baker, the principal at Madison, "they will say math."

Madison was the first school to adopt MIND in 2000. Eighty-five percent of Baker's students speak English as a second language. Since the games don't rely on language, they level the playing field, she says. "It's really, … it's incredible." When Peterson visits and Baker introduces him as JiJi's daddy, as most principals do, "Oh, they are just kind of in awe."

Baker remembers when Peterson was still a college student and would show up in flip-flops. He has upgraded to sport sandals these days.

He may not look like the sort of guy who is going to revolutionize the way students across the nation are taught math, but Baker is among a growing number of people who think he will.

And that is what attracted Smith. The FileNet founder thinks of his support for MIND as patriotic.

In short, he believes the MIND method can save the nation from math oblivion. "I'm here because Orange County and our country have such a need in terms of math education," he says. The idea that half of California students grades 2-7 are not proficient in math "is really foolish," he says. "Our education system is way behind."

The United States produces 70,000 engineers a year, compared with China's 650,000 and India's 350,000, according to a magazine article Smith quotes. "That is a serious problem for the workforce." Not to mention for the student. Failing in school can mean failing in life.

Right now, 48,000 students in grades K-5 use MIND. Peterson just created 89 new algebra-readiness games for middle school students along with three textbooks, all of which he wrote this past year in time for them to be adopted by the state of California.

"In Matthew, we have just a remarkable person from the standpoint of his grasp of the problem and his ability to provide solutions," Smith says. "A person of his inventiveness could start his own independent company and have great financial rewards beyond what he is paid here."

Peterson waves away such talk. His life is MIND.

In fact, he recently got down on one knee and proposed to his girlfriend, Sydni, in front of a classroom full of first-graders because it was in that class, while the two were doing a MIND presentation last year, that he realized he loved her.

And the students even took their eyes off their computer games long enough to cheer.

To try out the MIND math games or hear Matthew Peterson talk about his approach, go to **www.mindresearch.net/cont/edu/demos.php.**

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