

Brain power

Highland Park's Donalee Markus promotes mental agility

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Making the scientists at NASA smarter is quite a challenge. So is helping brain-damaged people recover their lost abilities.

And who would think that connect-the-dots puzzles could do both?

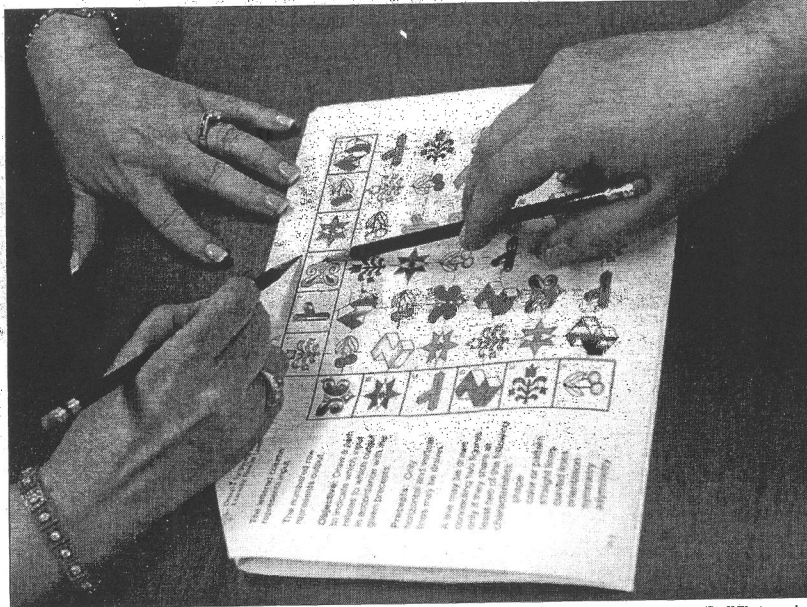
Yet that's how Highland Park brain-development specialist Donalee Markus, maximizes her clients: mental agility. Whether she's gently prodding a learning-disabled kindergartener or boosting the brainpower of real-life rocket scientists, the 27-year Highland Park resident's work has been popular via word-of-mouth for more than 20 years.

Now her first book, "Retrain Your Business Brain: Outsmart the Corporate Competition" (Dearborn Press, \$19.95), is bringing Markus's methods to a wider audience. What they find, Markus says, only makes sense: A performance-building workout benefits the brain, just as physical training benefits the body.

"The brain works like any other muscle, and it needs exercise to function optimally," Markus said. "But until very recently, it was believed that we're born with whatever brain power we had, and that intelligence could not be increased."

Modern neuroscience now agrees that the brain is "plastic" — capable of actual physical change, including creating new internal connections that lead to more creative thinking. And high-tech imaging now lets researchers "see" how the brains work physically: which areas carry out which tasks, where connections link different operations, how learning and thought occur.

One recent study, for example, tracked physical growth in certain areas of the brain when



Joel Lerner/Staff Photographer

Donalee Markus, author of "Retrain the Business Brain," works with a private client on a complex maze with seven variables. This exercise helps with higher mathematics.

people learned to juggle — and showed deterioration when they stopped practicing.

Like the skill of juggling, Markus's deceptively simple-looking exercises strengthen particular areas of the brain. Analogies, pattern identification, progressions and regressions, even connect-the-dots and drawing exercises constitute "yoga for the brain," as Entrepreneur magazine put it in a review of "Retrain Your Business Brain."

The fitness analogy is apt, Markus says, because exercises build mental strength through repetition and increasing challenges as one learns to organize information differently.

"You know you're seeing results," she said, "not when you get a headache, but when you

get a new idea."

The former junior-high teacher, a Chicago native who is married to plastic surgeon Dr. Norman Markus and who is the mother of Rod, Lindsey, Gavin and Brent Markus (all graduates of Highland Park High School), earned her Ph.D. at Northwestern University in 1982.

"I still loved teaching," she said, "but I knew I had to become some different kind of educator. I had already seen so many students who for so many reasons are not prepared to learn. That fundamental problem was what I felt driven to address — but I didn't know how."

The answer came during her postdoctoral study with Israeli psychologist Reuven Feuer-

stein, whose success with disadvantaged teenagers showed Markus how everyone could build critical-thinking skills. "It was necessary to do it at the physical level — re-wiring the brain itself — rather than trying to work harder all the time," she said.

Adapting that insight to high-functioning adults brought consulting work for Ameritech, Quaker, McDonald's, Coopers & Lybrand, Los Alamos National Laboratory and others.

"She is so creative, so fresh in her ideas," said former Chicago Bear Mike Singletary, who trained with Markus after she helped his children and uses her work in his Leadership Zone programs.

"When you meet this beauti-

ful blonde, you think she's a nice lady," Singletary said. "But she can be very tough, very candid. She has a great balance of loving what she does and demanding respect."

Chris Williams, NASA's learning systems program director, also was intrigued from the start.

"I see brochures about intelligence-building programs all the time," Williams said, "but there was something about Donalee's that made me keep hers."

"When NASA first called, I thought it was a joke," Markus said. Not any more: After five years of repeat visits, "we're bringing her back again as soon as we can," Williams says. "People keep asking to have her back because they loved the course and want a refresher, or because they've heard so much about her that they want a turn, too."

Williams hopes to make Markus's exercises available to astronauts, who need mental stimulation just as much as physical exercise. To that end, Markus is bringing the exercises to her Web site www.designsforstrongminds.com.

In the meantime, she continues adapting her non-verbal, number-free exercises "to reach everybody." Four after-school sessions every week draw kids of all ages and all abilities, from gifted to low IQ. Her adult clients, just as varied, seek to defeat the ravages of illness and age or simply get smarter.

How does Markus manage such a range? One answer is the exercises themselves, which contain no words or numbers.

"Just because you're an Olympic coach doesn't mean you can't help your child's soccer team," she said. "You look at what the person in front of you needs, and you work from that."

Television show to feature Markus

Some of Donalee Markus's clients are fighting brain damage resulting from accidents, strokes, injuries or unknown causes. Nine-year-old Conor Dolan of Deer Park is one of these.

Suffering seizures since before he was 2, Conor has struggled through surgery and rehabilitation, says his mother, Dorothy Dolan. Since he began working with Markus, Conor's progress has accelerated and he resumed attending school.

"Donalee has incredible powers of observation," says Dolan, a registered nurse. "She is so finely tuned to each individual she works with — and I've never known

anyone so positive and supportive."

"We've been following Conor's case since the beginning of our season this year," says Jacque Day, production coordinator of the series "Chicago's Lifeline" for the Discovery Health Channel. "Dorothy connected us with Donalee, and she is part of the story."

Conor's story, including his work with Markus, is the focus of a "Chicago's Lifeline" episode that is expected to air early this summer. It will be the first episode of the new season, said senior producer Barbara McCabe of Morningstar Entertainment.



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