

## Deaf Education: A New Philosophy

By Greg Livadas, RIT University News, reprinted with permission

Research at the National Technical Institute for the Deaf is shifting the way deaf students are being educated. Recent research suggests that even with qualified interpreters in the mainstreamed classroom, educators need to understand deaf children learn differently, are more visual, and often process information differently than their hearing peers.

### Research Findings at NTID

A popular assumption in education for many years was that deaf students are the same as hearing students except that they simply don't hear. But research at RIT's NTID is contradicting that belief, and consequently altering the way deaf students are being taught.

"We're changing the face of deaf education around the world," says Dr. Marc Marschark, professor and director of NTID's Center for Education Research Partnerships (CERP). "You can't teach deaf kids as though they are hearing kids who can't hear. It's not about ears and it's not about speech versus sign language. It's about finding their strengths and needs. The historical approach to deaf education simply doesn't work well enough to get deaf students where they need to be."

Through the center's research, thousands of deaf and hard-of-hearing students—from children as young as five to college students—have been tested in Australia, the Netherlands, England, Scotland, and on the RIT campus in Rochester, N.Y., to determine how they acquire new knowledge and how that knowledge is organized, understood, and communicated to others. Studies involve everything from tracking eye movements and performing memory tasks to attending experimental "classes" taught by deaf and hearing teachers.

For hearing children, a flood of information arrives constantly from background noises, ambient conversations, even words heard on the television. Deaf children may not have the same opportunities to learn through hearing, but they have different opportunities, Marschark points out.

But does it matter whether the child has deaf or hearing parents? Whether the child uses sign language or his or her voice? Whether the child uses a cochlear implant?

Recent research findings show:

- The deaf students who perform best academically usually are the ones whose parents have effectively communicated with them from an early age.
- Early language skills—both American Sign Language and spoken language—correlate with reading ability, with no evidence that one is necessarily better than the other.
- Most deaf students' difficulties in reading are mirrored by difficulties in understanding sign language.
- Deaf and hard-of-hearing children entering school often are lagging behind hearing children in their knowledge of the world, number concepts, and problem-solving skills, not just in language.
- Deaf students do not always learn, think, or know in the same ways as hearing children.

### CERP's Origins

CERP occupies much of the north wing of the first floor of the Mark Ellingson Residence Hall and has a laboratory and office area in Peterson Hall. Five of the 10 staff members are graduates of NTID's master of science program in secondary education; five are nationally certified sign language interpreters. All of its funding- more than \$6 million so far-is from grants from the National Science Foundation, the National Institutes of Health, and contracts or gifts from foundations, U.S. organizations, and foreign governments.

CERP has roots as early as 2002, when it was awarded its first NSF grant to study factors thought to influence deaf students' learning through sign language and barriers that hinder classroom learning. The following year, a second NSF grant was awarded for research to study communication and technological barriers to STEM (Science, Technology, Engineering, and Mathematics) education for deaf and hard-of-hearing students.

"One thing we found in our early studies is that despite what some people claim, deaf students' difficulties in mainstreamed classrooms could not be blamed on interpreters," says Marschark. "We started realizing some differences between deaf and hearing students: how their memory works, the organization of their knowledge, and their learning strategies are simply different. So for mainstream teachers, you can't assume the deaf students coming into your class know the same things or learn the same way as your hearing students. For example, deaf people's visual-spatial memories are better than hearing people's. But sequential memory isn't as good."

For decades, expectations of education for deaf students have been lower than for their hearing peers. Fifty percent of deaf and hard-of-hearing students graduating high school in the U.S. read at or below fourth-grade levels.

But research by Marschark and others shows that how much hearing one has doesn't predict how much they'll learn, either as children or adults. "Whether you use a hearing aid or a cochlear implant or are a native signer who uses ASL, they each have advantages," he says. "But by the time they're in college, all of that is washed out. Their experience has leveled it out."

### **History of Deaf Education**

Deaf children for centuries have not been educated as well as their hearing peers. Still today, there are no schools or provisions for teaching deaf children in many countries.

Prior to the advent of television and wireless pagers, deaf people in the U.S. used to gather at clubs or on street corners to share the latest news in sign language. Then a movement grew to educate deaf children orally and encouraged (or forced) them to use their voices.

In 1960, linguist William C. Stokoe recognized American Sign Language as a bona fide language, complete with its own syntax and linguistic features. More schools started to utilize American Sign Language as the language of instruction.

The Americans with Disabilities Act, signed into law in 1990, also marked a change in education for deaf and hard-of-hearing children. More parents of deaf children were sending them to mainstreamed schools, which are required to provide necessary accommodations to ensure their education. That could include interpreters in the classroom, but qualified interpreters weren't always found, especially in rural areas.

Today, Marschark says 86 percent of deaf students in the U.S. are in mainstreamed programs all or part of the day. In many cases, they are the only deaf or hard-of-hearing student in their school.

"Mainstreamed teachers think that if they remove the communication barriers they can teach their deaf kids as though they are hearing kids. Now that we've discovered some of the differences in how deaf and hard-of-hearing students learn, we want to know how to turn that knowledge into more effective teaching

strategies. We're in a position to educate parents and mainstream teachers about how these kids are different. Using the memory example, given their difficulties of retaining sequences, if you arrange material visually and spatially, deaf kids would do better."

Marschark is taking his research out of the laboratory and into classrooms and lecture halls around the world. He gives invited presentations more than 20 times a year and has written several books on the subject. In the summer of 2013, Marschark gave nine presentations describing various aspects of their findings on a lecture tour in Australia, presenting to parents, teachers, researchers, interpreters and other professionals involved in deaf education. He also described CERP research findings in meetings with Australian government agencies and a variety of professional groups.

In 2009, CERP launched a [website \(http://www.rit.edu/ntid/educatingdeafchildren/\)](http://www.rit.edu/ntid/educatingdeafchildren/) intended as a clearinghouse for objective answers to questions about raising and educating a deaf child. To date, dozens of questions have been asked and answered on the site, which has had more than 80,000 visitors from around the world.

Many of his findings today about deaf students' learning would not have been politically correct to utter just a few years ago, he says.

"Five years ago we thought the same thing, but we didn't have the evidence. Now we know it's true," he says. "In the past, saying things like this upset people. But the climate has changed. People are accepting that differences don't mean deficiencies. Now people better accept their strengths and weaknesses."

Today, fewer schools specializing in education for deaf students exist. And several have been eyed for closure in the near future due, in large part, to dwindling enrollments.

"Rather than closing them, we need more programs that understand how to educate deaf kids," Marschark says. "The mainstream as it exists now is not necessarily the best place for many deaf students. Sure, a kid doing OK in the mainstream will stay there. But he could be a star in another setting. The status quo is not good enough."

### **Changing Attitudes**

A lot of parents think that if their deaf child learns sign language, it will interfere with learning to speak.

"Not true," says Marschark. "Early sign language actually can support later spoken language for children with or without cochlear implants."

And his research shows that if a deaf child knows English as well as sign language, he or she tends to do better academically, socially, and with language development.

"Literacy is a big challenge," Marschark says. "For 100 years, we've made very little progress at improving deaf kids' reading. Current research suggests that we've been looking in the wrong place. The reading problem is not about reading. It's about comprehension. They learn just as much from what they read as what is signed or spoken. It's counterintuitive for many people, I know, but the evidence is very clear."

Just as there were varying opinions on whether deaf students should sign or speak, more recent controversy existed with the improvement of technological advances and cochlear implants (CI). More than 275 students at RIT/NTID currently have CIs, which enable them to hear some sounds. For years, implants were controversial in the Deaf (the uppercase D denotes those who see themselves as part of a linguistic-cultural minority) community, especially for young children with hearing parents. Many were afraid those children would never be exposed to sign language or their rich cultural history.

“We’re not interested in the political or the philosophical. We’re sensitive to those issues, but we’re trying to figure out how we can best support learning in the classroom for students of all ages,” Marschark says.

Dr. Louis Abbate, president emeritus of the Willie Ross School for the Deaf in Longmeadow, Mass., said CERP’s research was looked at when the school rewrote its mission five years ago. The school, founded in 1967, used to stress only oral communication for its students. Now, with an integrated campus, they need the flexibility to teach students orally or in sign language or both.

“We needed the flexibility to respond to the needs of each student,” Abbate said. “Marc was the first person we went to when we wanted to look at our communication model.” Abbate has often referred parents to CERP’s website: “The answers are very balanced and very reasonable. We use that all the time. So many parents are faced with either/or decisions early on, and they usually get pushed in one direction. Marc’s work is balanced. It talks about the value of different approaches and how they can be integrated with one another.”

Dr. James DeCaro, professor and dean emeritus of NTID, says CERP’s work is an asset to the field of education of the deaf and to RIT/NTID.

“Marc continues to build the pre-eminent research center in our field addressing these important teaching and learning issues,” DeCaro said. “We are lucky to have him here at RIT.”