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Brainstorm: Of Sign Language and Combat Veterans, Part 1

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Of Sign Language and Combat Veterans, Part 1

By: John Medina | Posted: March 9, 2012

I would like to introduce you to a terrific scientist. His name is David McNeill, a psycholinguist from the University of Chicago.

Dr. McNeill has been researching the relationship between verbal and nonverbal communications for most of his career, a subject we began discussing last entry. His work is very relevant to our ongoing conversation about nature, nurture, and human behavior.

Dr. McNeill was the first to suggest that gestures and speech arose from common cognitive precursors — and that they used similar neural circuits as the behaviors developed in our evolutionary history. If so, nonverbal and verbal skills might retain strong interactive tendencies with each other even after the two behaviors diverged into their separate behavioral spheres.

David was right on the money. Support came from the puzzling finding that people who could not move their limbs (because of brain injury) increasingly lost their ability to communicate verbally. Studies were eventually extended to babies, where the same direct relationship was observed. We now know that infants do not get a more sophisticated vocabulary until their fine-motor finger control improves, which is a very “nature” kind of comment to make. David is famous for saying that gestures are “windows into thought processes.” Given the linkage, it was possible that learning physical gestures could improve other not semi-related cognitive skills.

That’s a really big thing to say, but is it also a true thing to say? Does competency in non-verbal communication provide a boost to other types of thinking in a child’s brain?

That is a testable idea.

And a correct one, it turns out. We now know that children deliberately exposed to nonverbal exercises improve skills in other intellectual domains. One of the most famous involved teaching sign language to hearing children. If auditory-competent children were taught sign language in the first grade,

their attentional focus, spatial abilities, memory, and visual discrimination scores improved dramatically — and in an impressively short time. As measured by a test called Raven PM47 battery, there could be as much as 50% advancement over controls. Concluded the researchers, modestly:

“These results suggest that learning a sign language may lead to a cognitive advancement in hearing children.”

These findings are gratifying for parents wanting to satisfy their inner Chinese mothers. The problem is that the relationship between nonverbal behaviors and social communication is one that requires a great deal of practice to get right. It can take *years*, which means kids need lots of social exercise. Bodily gestures can confirm somebody’s verbal communication, contradict it, even undermine it. Which gestures go with what types of social information is largely determined by societal factors. That’s why it takes practice, landing this idea squarely in the “nurture” column of our discussion.

What does this mean for people interested in raising healthy, smart children? And what, if anything, does that say about the population explicitly mentioned in the title — *combat* veterans? Believe it or not, they are directly related. That’s a mystery we will clear up in my next entry.

Comments

ONE COMMENT TO “OF SIGN LANGUAGE AND COMBAT VETERANS, PART 1”

David Lammers says: March 9, 2012 at 8:42 pm

Great post as usual. As an elementary school counselor, what caught my eye was that first graders taught sign language had improved attentional focus (among other improvements). I can’t help but wonder how this knowledge could be used in the school setting to help students with attention challenges. Does research suggest that meeting regularly with these students to teach/practice sign language might improve their attention?

Yet another example of how brain research has the potential to completely change the way we look at education. Thanks again for sharing the research!