

## Getting Hands-On with Autism Education

Lisa Jo Rudy

**A**utism and language/communication challenges go hand-in-hand. Our son, Tom, who has mild autism, takes five to ten seconds to hear, process, understand and begin to act on a verbal command such as “open your books to page ten” or a request, “please bring your shoes over here.” He may get distracted on the way to answering a question, or reply “I don’t know” to save himself the hard work of responding appropriately.



As a result, Tom (who is now homeschooled) did poorly in class participation and collaboration. He rarely had the right answer to a teacher’s question. The results of his standardized achievement tests were, to say the least, disappointing. Yet IQ tests suggest that Tom’s intelligence is at least average. The disconnect in this equation is, of course, that Tom has compromised verbal processing skills which interfere with his ability to demonstrate his innate intelligence.

Tom is not unusual. The CDC (Centers for Disease Control) estimates that an average of 1 in 110 children in the U.S. have an autism spectrum disorder. ([www.cdc.gov](http://www.cdc.gov)) Many more children have language processing issues. Yet our public schools, spurred by No Child Left Behind mandates, use verbal techniques to teach and assess all students nearly 100% of the time. It’s not surprising that most kids with autism have troubles of one sort or another with learning and/or testing in the public schools.

While words are the tools most frequently used in school, words are only one of many options available for teaching, learning and assessment. And the good news is that these other options have already been proven valid and useful! The research has already been done. The educational tools have already been developed, tested and evaluated. A diverse and stimulating world of alternatives exists to help kids with autism and other language-related disorders explore, discover, learn and express their knowledge.

The bad news is that schools are radically limited in their ability to use those techniques, due in large part to NCLB and the need to test, test, test. Many kids with autism – even those with IEPs (individual education plans) that document their language processing challenges - spend the majority of their days learning to process and express information verbally. The result is hundreds of thousands of frustrated, unmotivated children achieving below their potential.

Thankfully, teaching and learning are not limited to the public classroom. Where, then, can kids with autism learn through their eyes, ears, hands and bodies; through experimentation, observation, manipulation and exploration? The answer is closer than you might think, and is available in every city and most small towns. All of these “hands-on” learning methods are already used in every science museum, children’s museum, living history museum, zoo, aquarium, arboretum and nature center in the country. They’re actively used at Boys and Girls Clubs, YMCAs, Scout events, Outward Bound programs, state and federal parks.

In a museum in Cherry Hill, New Jersey, kids with autism and their families visit during quiet evening hours. They work together to design buildings, “catch” fish, act and sing on stage, and “birdwatch” from a treehouse.

At aquariums across the country, families reach into tanks to touch real sharks, sea anemones and starfish, come face to face with octopi, and observe the swimming habits of rays.

Puppet shows, hands-on science experiments and demonstrations, planetarium shows and Lego clubs are all examples of tried and true hands-on learning methods that require little or no verbal communication – but nonetheless teach concepts, build understanding, reinforce collaboration and social skills, and provide opportunities for kids to find and explore their own passions.

Hands-on education is not new. In fact, it’s as old as education itself. In recent years, hands-on learning has been the subject of hundreds of studies – many published in peer-reviewed journals – that prove its effectiveness for learners of all ages and ability levels. Those studies assess not only absorption of content (the Earth orbits the sun; flowers grow from seeds; etc.) but also the attitudinal changes that occur when individuals are encouraged to learn in ways that make sense to them. They’re tried and true. They work. They work for typical kids and adults – and, in one form or another, they work for most kids with autism.

The same theories that support informal education in the museum setting have been implemented in some forward-thinking schools. Dr. Mel Levine, a nationally renown pediatrician who specializes in learning differences in children, (author of *All Kinds of Minds* and *A Mind at a Time*) created All Kinds of Minds, a not-for-profit organization that translates the latest research from neuroscience and other disciplines about how children learn, and vary in their learning, into a framework educators can use in the classroom. Howard Gardner, who proposed the theory of multiple intelligences in his book, *Frames of Mind* (1983), is active with Project Zero, a research group at the Harvard Graduate School of Education that has investigated the development of learning processes in children, adults, and organizations since 1967. Schools exist around the country that use the MI framework (The Gardner School in Vancouver, WA is one; [www.gardnerschool.org](http://www.gardnerschool.org)), and some educators in public and private schools incorporate Gardner’s theory of multiple intelligences into their teaching and curriculum adaptations. Gardner says, "(It's very important that a teacher take individual differences among kids very seriously ... The bottom line is a deep interest in children and how their minds are different from one another, and in helping them use their minds well."



It's unlikely that mavericks like Levine and Gardener will be changing the ways public schools teach in any systemic way anytime soon. In fact, despite our ability to create and implement appropriate teaching tools, our kids with autism are still pushed, pressed and pinched into verbal learning.

If it's unlikely your child will get much hands-on education at school, you may want to consider exploring the community to offer your child (or your students) new ways to learn. Curious, inspired parents and teachers who recognize the different learning abilities in kids with autism can find tons of ideas to incorporate multisensory learning opportunities into the home and classroom. With not too much effort, educators and parents can locate opportunities for hands-on learning within their community almost any day of the year. You can visit a museum, a zoo or a nature center... you can buy a book or a kit full of hands-on experiences... you can join a club, take a hike, go fishing, try out a seesaw. You can go bird watching, biking, or boating.

Exciting, interesting ways abound to explore, investigate and learn about the world with your child with autism. Whether you decide to home school, or enroll your child in an informal educational program, or simply take advantage of what's out there as a family, your child is likely to learn, participate, and have fun. As for you, the parent, there's a wonderful opportunity to bond with your child and discover his real strengths.

Informal education is serious business. But it's also serious fun.

## BIO

Lisa Jo Rudy is the About.com Guide to Autism ([www.autism.about.com](http://www.autism.about.com)) and the author of the forthcoming book, *Get Out, Explore and Have Fun: Making the Most of Community Activities with Your Child with Autism or Asperger Syndrome* (Jessica Kingsley, May 2010).



## Multiple Intelligences

**H**oward Gardner, Ph.D., pioneered the theory of Multiple Intelligences in 1983, which suggests that the traditional viewpoint that equates intelligence solely with I.Q. is much too limiting. Gardner describes eight different intelligences that blend together in a child and define that child's unique learning profile.

1. Linguistic intelligence (word smart)
2. Logical-mathematical intelligence (number/reasoning smart)

3. Spatial intelligence (picture smart)
4. Bodily-Kinesthetic intelligence (body smart)
5. Musical intelligence (music smart)
6. Interpersonal intelligence (people smart)
7. Intrapersonal intelligence (self smart)
8. Naturalist intelligence (nature smart)

These eight intelligences offer eight different pathways educators can use to make learning more meaningful to a child. A subject can be taught by approaching it in ways that align to each of the different intelligences, through:

1. Words
2. Numbers or logical patterns
3. Pictures
4. A physical experience
5. Music or song
6. A social experience
7. Self-reflection
8. An experience in the natural world

Find creative ways to incorporate the idea of multiple intelligences in the classroom at ALPS, a webpage that offers various “learning regions” where you can explore ideas and research performed by Harvard Project Zero. <http://learnweb.harvard.edu/alps/bigideas/q3.cfm>

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