



SIGN *with your* BABY Supporting Research

There is a growing body of research documenting the benefits of using sign language with hearing children.

Signing with Hearing Babies of Hearing Parents

When Dr. Joseph Garcia began working as a sign language interpreter in the late 1970's, he noticed that hearing babies of deaf parents could communicate their needs and desires at a much earlier age than hearing children of hearing parents. Joseph began to research the use of American Sign Language with hearing babies of hearing parents at Alaska Pacific University in 1987. His thesis research showed that babies who are exposed to signs regularly and consistently at six to seven months of age can begin expressive communication by their eighth or ninth month.

After graduating, Garcia focused on creating a practical system for hearing parents to use sign language with their preverbal babies. He published his first book on the subject, entitled Toddler Talk, in 1994. As Garcia began his doctoral studies in adult learning and education, he expanded and revised his program, which is now known as SIGN with your BABY®. Drs. Linda Acredolo and Susan Goodwyn conducted a longitudinal study funded by the National Institutes of Child Health and Human Development. The study showed that babies who used symbolic gestures understood more words, had larger vocabularies, and engaged in more sophisticated play than non-signing babies. Parents of the signing babies in the study noted decreased frustration, increased communication, and enriched parent-infant bonding. Signing babies also displayed an increased interest in books.

Acredolo and Goodwyn revisited the families in the original study when the children were seven and eight years old. The children who signed as babies had a mean IQ of 114 compared to the non-signing control group's mean IQ of 102.

You can read about these findings in the following articles available online:

S. W. Goodwyn, L. P. Acredolo & C. Brown (2000). Impact of Symbolic Gesturing on Early Language Development. Journal of Nonverbal Behavior, 24, 81-103.

L. P. Acredolo & S. W. Goodwyn (July 2000). The long-term impact of symbolic gesturing during infancy on IQ at age 8. Paper presented at the meetings of the International Society for Infant Studies, Brighton, UK.

Another study by Acredolo and Goodwyn shows that signing babies engage in more joint attention episodes than their non-signing peers. Joint attention happens when a baby directs an adult's attention to something he or she is interested in. A child who is more skilled in initiating joint attention episodes can help accelerate his or her verbal language development. The findings in this study help to explain why signing babies tend to start to talk earlier than their non-signing peers.

Brie Moore, Linda Acredolo & Susan Goodwyn (April 2001). Symbolic gesturing and joint attention: Partners in facilitating verbal development. Paper presented at the Biennial Meetings of the Society for Research in Child Development.



Signs with Hearing Babies of Deaf Parents

In the two studies cited below, hearing babies exposed to both ASL and English were able to communicate more complex messages through the use of signs than they could verbally.

Griffith, P.L. (1985). Mode-switching and mode-finding in a hearing child of deaf parents. Sign Language Studies, 48, 195-222.

Wilbur, R. and Jones, M. (1974). Some aspects of the acquisition of American Sign Language and English by three hearing children of deaf parents. In La Galy, Fox, & Bruck (Eds.), Papers from the Tenth Regional Meeting of the Chicago Linguistic Society, 742-749.

Signing in Preschool and Pre-K Environments

Dr. Kimberlee Whaley started a longitudinal study in November 1999 to research the use of ASL signs with preverbal babies in a preschool environment. After her pilot study conducted at Ohio State's, A. Sophie Rogers Infant-Toddler Laboratory School, she noted: "It is so much easier for our teachers to work with 12-month olds who can sign that they want their bottle, rather than just cry and have us try to figure out what they want. This is a great way for infants to express their needs before they can verbalize them."

Marilyn Daniels, a professor of speech communication at Penn State University, has found that hearing students in pre-kindergarten classes who receive instruction in both English and ASL score significantly higher on the Peabody Picture Vocabulary Test than hearing students in classes with no sign instruction. Her studies demonstrate that adding visual and kinesthetic elements to verbal communication helps enhance a preschool child's vocabulary, spelling and reading skills.

M. Daniels (October, 1994a). The effects of sign language on hearing children's language development. Communication Education, 43, 291-298.

M. Daniels (1996b). Seeing language: The effect over time of sign language on vocabulary development in early childhood education. Child Study Journal, 26, 193-208.

M. Daniels (2001). Dancing with Words: Signing for Hearing Children's Literacy. Westport, Connecticut: Bergin and Garvey.

Other researchers have found evidence that sign language supports early literacy skills.

L. Felzer (1998). A Multisensory Reading Program That Really Works. Teaching and Change, 5, 169-183.

R. Wilson, J. Teague & M. Teague (1985). The Use of Signing and Fingerspelling to Improve Spelling Performance with Hearing Children. Reading Psychology, 4, 267-273.

J. Hafer (1986). Signing For Reading Success. Washington D.C.: Clerc Books, Gallaudet University Press.

L. Koehler & L. Loyd (September 1986). Using Fingerspelling/Manual Signs to Facilitate Reading and Spelling. Biennial Conference of the International Society for Augmentative and Alternative Communication. (4th Cardiff Wales)



Signs and Children with Special Needs

For decades, speech language professionals have used signs simultaneously with speech in treating children who are slow to develop verbal communication. Using Sign Language has also proven to be a successful intervention with children with special-needs including Down syndrome, and autism. Some relevant references and resources follow:

Apraxia of Speech

Square PA, (1994). Treatment Approaches For Developmental Apraxia Of Speech. Clinical Communications Disorders, 4(3):151-61.

Sharon Gretz. Using Sign Language With Children Who Have Apraxia of Speech. Available online at <http://www.apraxia-kids.org/topics/sign.html>.

Autism

Stephen M. Edelson, Ph.D., from the Center for the Study of Autism, Salem, Oregon writes:

“Many aberrant behaviors associated with autism and other developmental disabilities, such as aggression, tantrumming, self-injury, anxiety, and depression, are often attributed to an inability to communicate to others. Signed Speech may, at the very least, allow the person to communicate using signs and may stimulate verbal language skills. When teaching a person to use sign language, another possible benefit may be the facilitation of their attentiveness to social gestures of others as well as of themselves.”

Dr. Edelson’s article is available online at <http://www.autism.org/sign.html>.

Down Syndrome

Claire Donovan S-LP (1998). Teaching Sign Language. Disability Solutions, Volume 2, Issue 5, January/February 1998.

J. F. Miller, A. Sedey, G. Miolo, M. Rosin & J. Murray-Branch (1992). Vocabulary acquisition in young children with Down Syndrome. Speech and sign Paper presented at the 9th World Congress of the International Association for the Scientific Study of Mental Deficiency. Queensland Australia August 1992.

E. D. Gibbs, A. S. Springer, S. C. Cooley & S. Aloisio (November, 1991). Early use of total communication: Patterns across eleven children with Down Syndrome. Paper presented at the meeting of the International Early Childhood Conference on Children with Special Needs, St. Louis, MO.



Reading Disabilities

D. Blackburn, J. Vonvillian & R. Ashby (January 1984). Manual Communication as an Alternative Mode of Language Instruction for Children with Severe Reading Disabilities. Language, Speech and Hearing Services in Schools, 15, 22-31.

J. Carney, G. Cioffi & W. Raymond (Spring 1985). Using Sign Language For Teaching Sight Words. Teaching Exceptional Children. 214-217. M. Vernon, J. Coley, J. Hafer & J. Dubois (April 1980). Using Sign Language to Remediate Severe Reading Problems. Journal of Learning Disabilities, 13, 215-218.

L. Sensenig, B. Topf & E. Mazeika (June 1989). Sign Language Facilitation of Reading with Students Classified as Trainable Mentally Handicapped. Education and Training of the Mentally Retarded, 121-125.

Children in Hospital Settings

Hall, SS Weatherly KS, (1989). Using sign language with tracheotomized infants and children. Pediatric Nurse, Jul-Aug; 15(4): 362-7. Available online at: http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=2587090&dopt=Abstract.

Conclusion

This is a small collection of the growing amount of research on signing with hearing babies. As you can see, the use of sign language has proven to be beneficial for children in a wide variety of settings. Sign language is now being adopted into early childhood curricula because it helps reduce frustration for infants, reduces classroom noise levels, and lowers incidences of biting. And signs like **STOP**, **GENTLE**, and **SHARE** help toddlers learn how to play together more cooperatively.

As the use of sign language with young children gains popularity, we encourage researchers to continue to investigate the impact that signing is making on children's linguistic, cognitive and social development. There is no question that this wave is already shattering long-standing paradigms. As dedicated parents and educators, the staff at Northlight is committed to helping the wave to build as it spreads so many benefits to babies and those who love them. With each day, more and more people are coming to recognize the power of signing as it dramatically changes the way they view and interact with pre-verbal babies.

If you are aware of any studies that should be added to this list, or want to pursue new research in this area, we invite you to contact us at your earliest convenience.

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