

Early educators and families can teach hearing, pre-verbal children to use sign language in order to facilitate their ability to communicate, but is it a good idea? It may be easier for babies to use a manual mode of communication than an oral one, but does it really make a difference in the long run?

Sign Language With Babies: What Difference Does It Make?

Susan Kubic Barnes

Teachers and families of babies and toddlers know how frustrating it can be to be unable to understand what their youngest children are thinking. Often gestures and whining can be clearly interpreted, as when toddlers reach up both of their arms. Adults and even older children assume that a toddler with arms in the air wants to be picked up. But what if the baby is actually reaching toward a toy on a shelf or is calling attention to something interesting outside the window?

Teaching sign language—to deaf or other children with special needs or to hearing children with hard-of-hearing family members—is not new. Researchers found one study done by Gallaudet in 1910 (Johnstone, Durieux-Smith, & Bloom, 2005). Teaching sign language to typically developing children has become increasingly popular since the publication of *Baby Signs*® (Goodwyn & Acredolo, 1996), now in its third edition. Attention to signing with babies has received much publicity.

- Numerous programs have been introduced to help families and teachers learn to better communicate with children as young as 6 months old.
- In the popular 2005 film “Meet the Fockers,” Jack talks to his grandson using sign language.
- Hundreds of magazine and newspaper articles, and numerous television shows, have featured stories on programs that teach infant and toddler sign language.

There is no reliable estimate of the number of families who sign with their children, but Amazon.com reported sales of *Baby Signs* to be in the top 300 of all books sold in 2004 and 2005. Even in 2006, when many other baby-signing books became available, the book remained in the top 600 (Pizer, Walter, & Meier, 2007). The third edition

is available on Kindle, Amazon’s wireless reading device.

Some of these programs claim that using baby sign language will speed verbal development (Baby Signs, 2008) and some claim to enhance early brain development (Baby BumbleBee, 2008). However, a search for scholarly research and empirical studies to support these claims finds that there is conflicting evidence.

Language development is so important to success in school and in life that accurate information for families, caregivers, and other educators is crucial. This article begins with a brief history of sign language and a review of normal language development. It then reviews the research on the effects of sign language on hearing children’s language development and the overall benefits of signing with babies.

Sign Language: How It Started

Thomas Hopkins Gallaudet, who co-founded the American School for the Deaf (ASD) in 1817, promoted the policy of teaching sign language to the hearing brothers and sisters of his deaf students for two reasons. First, the deaf child would have a way to communicate, and secondly, the hearing children would increase their own language proficiency (ASD, 2008).

Susan Kubic Barnes, M. Ed., is an Instructor in the Department of Early, Elementary and Reading Education, James Madison University, Harrisonburg, Virginia. She previously taught preschool at the University of Michigan and kindergarten in the public schools. Her JMU faculty responsibilities include supervision in public and private preschool and kindergarten classrooms with children of diverse backgrounds and varied abilities. Her research interests include using media and technology to support children’s learning and assessing the effectiveness of adult-child interactions.

The 1853 issue of *American Annals of the Deaf and Dumb* contained an article that explained the benefit of teaching hearing children language through verbal and non-verbal techniques. Gallaudet said that “the more varied the form under which language is presented to the mind through the various senses, the more perfect will be the knowledge of it acquired, and the more permanently will it be retained” (Daniels, 2004, p. 87).

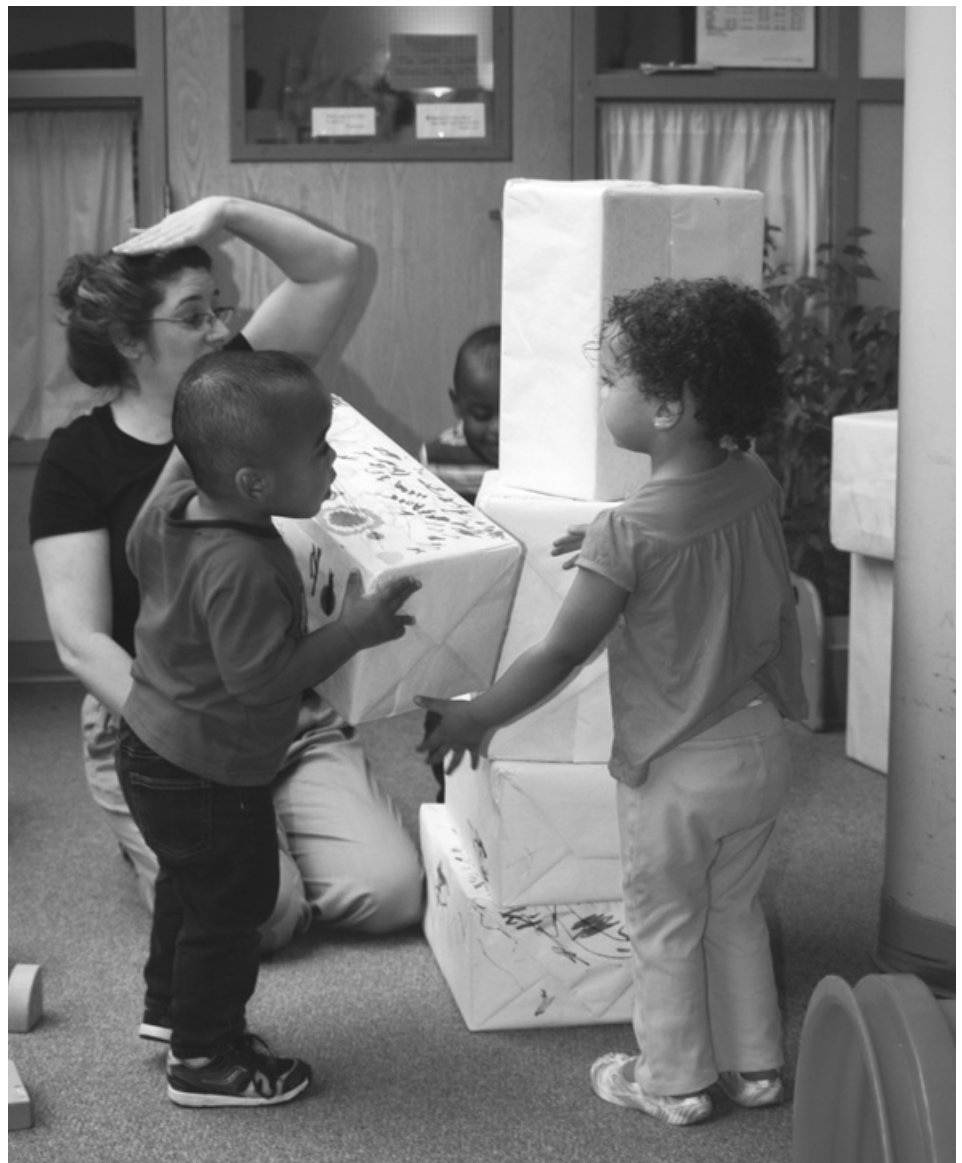
More than a century after that article was published, the book *Sign Language Structure* described American Sign Language (ASL) as a true language with sound phonological, morphological, and syntactical structures (Stokoe, 1960).

After Spanish and Italian, signing is the third most commonly used language in the United States (Yule, 1996). Dozens of studies with school-age children show that sign language enhanced students’ reading ability. In the 1990s, the International Reading Association began to feature lectures at their conferences addressing the benefits of including sign language in typical classroom instructional settings (Daniels, 2004).

To better understand how sign language may affect language development in young children, it is important to know about the typical development of language in hearing children.

Typical Language Development

For the families and caregivers of typically developing children, the rate of verbal language development between birth and 2 years of age—when most children have acquired vocabulary and the fine motor



Subjects & Predicates

The proponents of infant sign language believe that because sign language and gestures, like spoken language, represent thoughts in a symbolic way, it may be easier for very young children to first learn language using signs. Perhaps the essentials of language acquired through the manual modality transfer to the verbal modality when children develop the ability to create the phonemes.

coordination required to actually say the words required to make their needs known—is frustratingly slow.

Receptive language develops before expressive language. For example, infants will turn toward sounds and be calmed by gentle voices, but they can only make cooing and gurgling sounds. The graph in Figure 1 (Machado, 2007) shows how children communicate verbally at different stages of development.

- At about 6 months of age, babies are able to reciprocate in “conversations” by making sounds when others talk to them and to make noises to gain attention. Caregivers often say that the cries babies make when they are hungry are different than other sounds they make.
- Typical 1-year-old children will recognize some

meaningful words, including their own names, and will try to make sounds that sound like words.

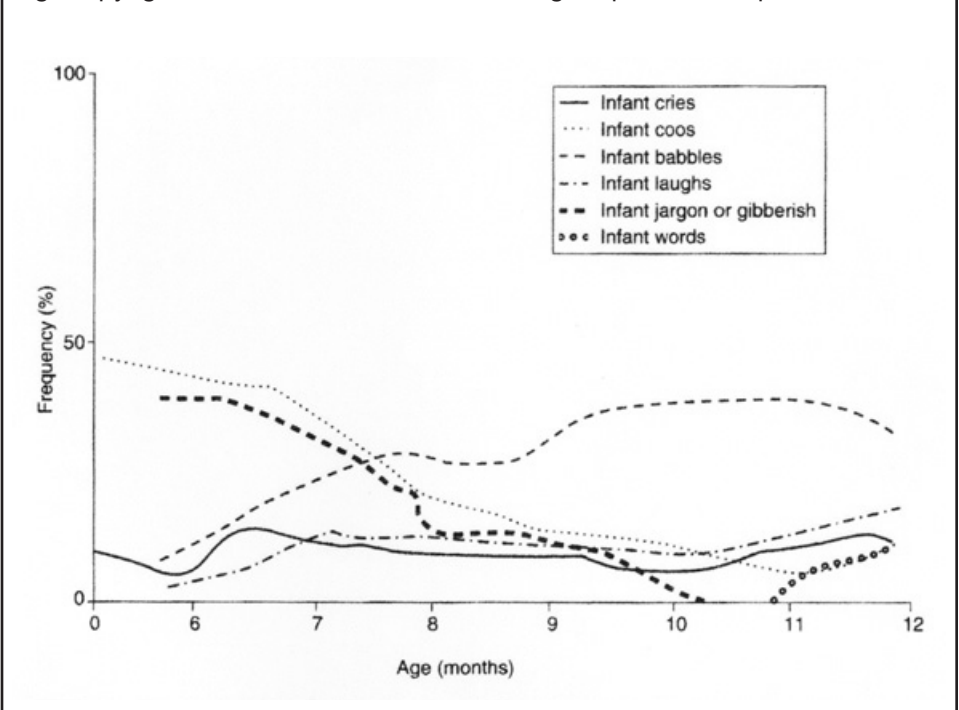
- Normally developing toddlers are usually able to comprehend simple questions and follow simple directions by the time they are about 15 months old. They may be able to say a few words, but articulation skills are just emerging, so these words are usually not very clear.
- Most children begin to speak when they are between 1 and 2 years of age.

It was once believed that talking marked the beginning of the ability for children to think symbolically and use symbols for communication. However, research has shown that children gradually come to use symbols to represent concepts. Adults and other children support children's language acquisition from the moment they are born, some believe even before birth. When people speak and read to children, they model many different aspects of communication including how to make sounds and to take turns in conversation. They provide labels for interesting objects and events.

Long before children are able to develop control of the articulatory actions required for meaningful oral communication beyond babbling, they master many gross motor skills used in manual modes of communication, such as sign language. Very young children can, for example, grasp objects and point to things. These intentional communication signals, called "performatives" or "deictic" gestures, begin around 10 months (Goodwyn, Acredolo, & Brown, 2000). As these infant body

Figure 1. Approximate frequency of child utterances from 6 to 12 months.

Note: From *Early Childhood Experiences in Language Arts: Early Literacy* (8th ed.), p. 29, by J.M. Machado, 2007, Clifton Park, NY: Thomson Delmar Learning. Copyright 2007 Thomson Delmar Learning. Reprinted with permission.



signals are used over and over, a type of sign language emerges. Halliday (1979) explained that with this goal-oriented signal and sound system, the "child tongue" form of communication progresses naturally into word use.

Infant Sign Language

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Research Overview

Many reports supporting the view that teaching sign language benefits

young children were based on studies done with hearing children of deaf parents using ASL and spoken English concurrently (see Table 1). Some of the problems with these studies are identified here.

- Many samples were small (some with just one infant).
- The subjects were not matched to randomly assigned control groups, so there may have been selection bias.
- It is possible that these children were precocious.
- Some are original studies and others are secondary analyses of data collected from original research (Johnson, et al., 2005).

Findings reported from these studies are interesting. Daniels (2004) describes a study (Holmes & Holmes, 1980) that reports the experiences of hearing parents who used both

Table 1. Selected studies of infant sign language in chronological order of publication. (N = sample size)

<i>Authors & Dates</i>	<i>N</i>	<i>Description</i>	<i>Results</i>
<i>Holmes & Holmes, 1980*</i>	1	deaf parents signed at home with hearing infant	oral language acquired earlier than norm
<i>Bonvillian et al., 1983*</i>	11	deaf parents signed at home with 10 hearing infants and 1 deaf child	sign language development exceeded oral norms
<i>Folven et al., 1984*</i>	13	deaf parents signed at home with hearing infants	early gesture use correlated with sign and oral language development
<i>Orlansky & Bonvillian, 1984*</i>	13	deaf parents or ASL interpreter signed with hearing infants	increased language development compared to norms
<i>Folven, 1988*</i>	9	deaf parents signed with hearing infants	accelerated language development
<i>Orlansky & Bonvillian, 1988*</i>	13	deaf parents or ASL interpreter signed with hearing infants	accelerated language development
<i>Daniels, 1994</i>	14	deaf parents signed with hearing infants	standard scores higher on Peabody Picture Vocabulary Test
<i>Goodwyn & Acredolo, 1993</i>	22	hearing parents taught to use signs and toys to encourage signing	acquired signs earlier than words
<i>Gregory, 1994*</i>	1	deaf and hearing parent signed with hearing infant	rapid learning of word/sign
<i>Caprici et al., 1998*</i>	1	deaf parent signed with hearing infant	no difference compared with norms
<i>Goodwyn & Acredolo, 1993</i>	103	3 groups: one group of hearing parents taught to use signs and toys to encourage signing; one control group got no instruction; the other control group got verbal training	infants who used symbolic gesturing increased the joint attention time with parents and expressed more advanced expressive language
<i>Acredolo & Goodwyn, 2000</i>	43	hearing parents taught to use sign language with hearing infants	sign group had higher IQ than norm
<i>Goodwyn et al., 2000</i>	103	3 groups: one group of hearing parents taught to use signs and toys to encourage signing; one control group got no instruction; the other control group got verbal training	some improvements on language for experimental groups
<i>Moore et al., 2001*</i>	103	3 groups: one group of hearing parents taught to use signs and toys to encourage signing; one control group got no instruction; the other control group got verbal training	joint attention and signing predicted more advanced expressive language
<i>Pettito et al., 2001*</i>	3	deaf parents signed with hearing infants	vocabulary similar to norms
<i>Holowaka et al., 2002*</i>	3	deaf parents signed with hearing infants	no difference between bilingual and monolingual children
<i>Pizer et al., 2007*</i>	3	Texas families, all hearing with no prior ASL knowledge, chose to sign	baby-signing may have encouraged common misconceptions about ASL

*Cited in Johnstone, Duriex-Smith, & Bloom (2005).

sign and spoken words with their own child. The child was found to develop language earlier than might be expected.

Other studies suggest that children exposed to sign language achieve higher than average scores on standardized tests. It is possible that using ASL has a positive impact on the hearing child's attainment of language because concepts were presented with words not only orally, but also visually and kinesthetically (Daniels, 1994).

More empirically sound studies include those by Acredolo and Goodwyn (1990, 2000). These studies looked at the effect of signing by hearing parents and included two control groups, one receiving training to merely encourage verbal language with their infants and a second control group receiving no training or intervention.

Language development is important to success in school and in life.

In the experimental group, parents received training in how to use symbolic gesturing for communication with their children. These children were exposed to an adapted "baby sign language" and not a complete sign language system. The researchers postulated that the language development of typically developing children could be advanced if parents used and taught their children sign language. The findings also suggest that acquisition of this skill does not hinder the development of vocal language (Goodwyn, Acredolo, & Brown, 2000). Most of the programs advertised today are based on the work done by Acredolo and Goodwyn.

Table 2. Results for children who were in Baby Signs® treatment group (BabySigns.com, 2009).

<i>24 Months</i>	<i>36 Months</i>	<i>96 Months</i>
Signers were, on average, talking more like 27- or 28-month-olds and putting together significantly longer sentences.	On average, signers were talking like 47-month-olds, putting them almost a full year ahead of their average age-mates.	Signers scored an average of 12 points higher in IQ than their non-signing peers.

How reliably can these findings be generalized to other groups of children? As noted in Table 1, the parents in at least one study were all experienced signers. It is possible that children of hearing parents without expertise in sign language would have less success in implementing a signing program with their infants.

The National Institutes of Health funded Acredolo and Goodwyn to do a long-term study. The children were assessed using standardized language measures at 11, 15, 19, 24, 30, and 36 months. In addition, as many children as could be relocated at age 8 were assessed using the WISC-III test, the most commonly used measure of children's intelligence. A summary of the results of their study is found on BabySigns.com (2009) and is shown in Table 2.

During this study, the signs used by families and trainers were based on naturally occurring gestures, known by the experimenters as baby signs. Since that initial study, most of the words taught in baby sign language programs have been adapted from the American Sign Language system. According to the District Manager for Baby Signs, Inc., serving Central Virginia, complicated or difficult signs are sometimes modified to make it easier for young children to produce

meaningful signs (B. Broughton, personal communication, March 24, 2006).

Some families choose to make up their own signs for individual items they routinely use around the house. These signs often are iconic, which means that they are gestures that mimic the actions related to the words they represent. For example, to make the sign for drink, signers might shape their hand as if holding a cup and bring that hand up to their lips. An experienced ASL instructor, Sebrey (2008), explains how these signs easily become a natural means to communicate with babies and with other members of the family.

Reported Benefits of Signing With Babies

The results of the Acredolo and Goodwyn study (2000) may lead observers to believe that use of sign language causes accelerated language development and improves scores on intelligence tests. Acredolo and Goodwyn believe that baby signs stimulate brain development by strengthening connections that make it easier for a baby's subsequent efforts to communicate to succeed. They explain that without the use of sign, this neurological growth would be



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delayed several months until the baby could articulate words. They also believe that baby signs can help infants understand the idea that they can connect with people.

There are correlations between the use of sign language and the rate of vocabulary development and perhaps intelligence, but is it evidence to say that there is a direct causal relationship? While the Acredolo and Goodwyn study design did randomly assign families to the treatment group and control for some important variables, such as child's initial ability, parent income, and birth order, the design could not control for all possible factors that could impact the outcomes of the study.

- It is quite possible that the parents in the treatment group were more motivated than other parents to continue to support their children's language development after the initial involvement in the sign language program.
- Perhaps other caregivers and therapists involved in the program were more engaging with signing babies than non-signers.
- Perhaps it was not just the effect of using sign language, but the impact of larger amounts of time that adults and children spent together as they engaged in communication.

It is important for reviewers of these results to bear in mind that these or other factors may have had an effect on the reported outcome. More research is needed before claims of a direct cause and effect relationship can be fully supported. There is no evidence, however, to indicate that teaching sign language to babies and toddlers does any harm, such as slowing the emergence of verbal language.

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On the other hand, some evidence indicates that the use of sign language as a temporary transitional tool to communicate with preverbal children may encourage some misconceptions about the deaf community and ASL. These assumptions include the mistaken beliefs that communication using sign language is easier than speaking, that sign language is based on spoken language, and that sign language is universal (Pizer et al., 2007).

Despite the weak direct evidence that infant sign language leads to an increase in intelligence, there are other positive indications, including countless anecdotal and testimonial records such as these.

- A special education teacher said, "If you want to know what it feels like to be a toddler, go to a country where you don't know the language and just try to get along. Just getting something to eat or finding a restroom when you don't know the language is so frustrating!" (P. Kennedy, personal communication, March 2006).

- Young children may throw temper tantrums as a result of a feeling of frustration because they are not able to verbally express themselves. The practice of signing is thought to reduce this frustration because it gives babies the opportunity to identify important objects, express their personal needs, and describe how they feel.
- Toddlers also get the chance to participate in choosing what they want to do and what they want to talk about. This ability to communicate strengthens the bond between caregivers and children by extending the time that adult and child spend together attending the same interests.
- One professor in early childhood education and an expert in child development claims that early childhood centers that adopt school-wide signing programs for their nurseries and preschool programs report that parents and teachers say that the environment is more quiet and peaceful than non-signing centers (A. Papero, personal communication, March 2006). These caregivers claim that this more relaxed environment is in part the result of the pre-verbal children having the ability to communicate with adults and other children using sign language.

Sharing Information With Families and Colleagues

Parents and early childhood educators are always looking for ways to help children succeed in school and in life. Publication of Acredolo and Goodwyn's work has spawned a plethora of companies eager to sell products to help caregivers to use sign language with very young children. While searching the Internet, adults are likely to find claims similar to these.

Evidence is also mounting that children with special needs, such as apraxia of speech, autism, or Down Syndrome who have difficulty with speech can make great strides in their communication development when Signing Time is part of their regimen. The multi-sensory approach of Signing Time engages visual learners, kinesthetic learners, and auditory learners of all ages and abilities, while making sign language easy and fun. (Signingtime.com, 2009)

This is the best baby sign language DVD that I have ever come across. The "Talk to Me" DVD had more signs than I could have ever imagined. I have used other videos and none of them even come close to this one. There are tons of different signs and I love how they were broken up into different categories. It is so easy to use. You can definitely tell that this was done by a real "mom" who had used these techniques herself. It is very user friendly, and very inexpensive for the amount of information you are getting. I have used this with my baby and it is working great! Thank you!! I could not praise it enough. I would recommend this to anyone who has a baby! (tinybabysigns.com, 2009)

We had a blast signing with our daughter. I was a little skeptical at first. I did not see the point in teaching sign language to a baby in the months just before she would begin speaking. But it was so much fun when Isabelle started to learn the signs. For a while, we could hardly keep up! And now I am convinced that signing with our daughter gave her an invaluable head start on learning. Thank you for a great product! (yourtalkingbaby.com, 2009)

I have been attending classes for 6 weeks now ... my eldest can already sign about 20 words and can string 4 signs together, and my baby has already signed to ask for milk which is absolutely fantastic! Little Bear Baby Signing classes are thoroughly enjoyable as it (sic) combines communicating, singing, experiencing different sensory mediums, reading, playing and all in a friendly environment. Everything you need to help build essential learning skills. (littlebearbabysigning.com, 2009)

Many families and early childhood programs looking to support children's development are purchasing commercial programs and products. Most of these products include videos that are described as an excellent way to learn sign language. Other popular products are flash cards that illustrate signs, puppets to make signs, books with pictures that help support the signs demonstrated on the video or flashcards, CDs with songs to practice signs in a fun way, and classes.

The courses are usually taught to a group by a trainer who also serves as the local distributor of the company's products. The Baby Signs® certification program is \$199 (babysigns products, 2009). With training,

centers often get a discount on the classroom kit. A standard classroom kit includes a set of three CDs, a couple of cloth books, a signing puppet, some flash cards, and two DVDs for \$250. Many companies sell individual instructional DVD videos and music CDs for about \$20 (babysigns, 2009).

While thousands of parents and teachers—determined to give their children every possible opportunity to excel—are enrolling in classes and buying these products, others may choose not to use sign language or signals, believing that these practices will delay the development of verbal language. Actually there is evidence that the opposite is true. Lapinski (1996) explains that signing and the eye contact it requires helps children learn that communication is a rewarding, reciprocal process.



Subjects & Predicates

By talking during daily routines such as feeding and bathing, adults help children make connections between the activities and words associated with them. Smiling and acknowledging children's sounds and gestures encourages them to continue their communication efforts. The difference in speaking ability between early talkers and late talkers usually disappears by the time children are 3 years old.

The interaction between adult and child is the most important factor in the development of language. By carefully observing infant eye and body movements such as head turns, adults can get clues as to what is of interest to children. Attentive caregivers notice hand and body movements that indicate that children are trying to communicate their ideas. For example, children who smack their lips may be hungry, while those who turn their heads away from a bottle or push it away are probably not hungry. When adults respond to the natural signals that children make, communication is reinforced and children learn more about the way language works.

As infants and toddlers progress from being passive receptors of language to participants in two-way communication, signs, gestures and other non-verbal communication play important roles. Children each develop in their own unique way, with many environmental factors, including the attitudes and beliefs of significant adults, playing a role in early language development.

Families and teachers who believe that their children have the potential to be communicative partners talk to them that way and help to make it come true (Snow, De Blauw, & Van Roosmalen, 1979). By talking during daily routines such as feeding and bathing, adults help children make connections between the activities and words associated with

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Signing and its eye contact convey that communication is a rewarding, reciprocal process.

The difference in speaking ability between early talkers and late talkers usually disappears by the time the children are 3 years old. **The goal of adults should not be to get children to talk as soon as possible, but to foster a warm and nurturing relationship that allows each child to feel confident and secure.**

The most important benefit of using sign language may be that it is another tool families and teachers can use to achieve this goal. The wealth of everyday opportunities for meaningful interaction provides richness in the lives of children's early language acquisition. Sebrey (2008) reminds her readers that the benefits of signing are not just for babies. By signing, people can communicate across crowded rooms and from airport windows. Good communication is an essential building block in the foundation of all loving relationships. Maintaining those relationships is the best thing adults can do for children.

References

- Acredolo, L.P., & Goodwyn, S.W. (1990). Sign language in babies: The significance of symbolic gesturing for understanding language development. *Annals of Child Development*, 7, 1–42.
- Acredolo, L.P., & Goodwyn, S.W. (2000). The long-term impact of symbolic gesturing during infancy on IQ at age 8. Paper presented at International Conference on Infant Studies, Brighton, UK.

- Acredolo, L.P., & Goodwyn, S.W. (2003). The Baby Signs Research. Retrieved 8 March 8, 2008, from http://www.babysigns.com/index.cfm/fuseaction/institute.research_extensive/extensive_research.cfm
- American School for the Deaf (ASD). (2008). History. Retrieved March, 2008, from <http://www.asd-1817.org/history/history-asd.html>
- Baby BumbleBee. (2008). Products page. Retrieved March, 2008, from <http://www.babybumblebee.com>
- Baby Signs. (2009). Research and products pages. Retrieved March, 2009, from <http://www.babysigns.com>
- Bonvillian, J.D., Orlansky, M.D., Novack, L.L., & Folven, R.J. (1983). Early sign language acquisition and cognitive development. In D. Rogers & J.A. Sloboda (Eds.), *The acquisition of symbolic symbols* (pp. 207–214). Chicago: Plenum.
- Capirci, O., Montanari, S., & Volterra, V. (1998). Gestures, signs, and words in early language development. In J.M.E. Iverson & S.E. Goldin-Meadow (Eds.), *The nature and functions of gesture in children's communication* (pp. 45–59). Rome: Italian National Council of Research, Institute of Psychology.
- Daniels, M. (1994). The effect of sign language on hearing children's language development. *Communication Education*, 43, 291–298.
- Daniels, M. (2004). Happy hands: The effect of ASL on hearing children's literacy. *Reading Research and Instruction*, 44(1), 86–100.
- Folven, R.J., Bonvillian, J.D., & Orlansky, M.D. (1984). Communicative gestures and early sign language acquisition. *First Language*, 5, 129–143.
- Goodwyn, S.W., & Acredolo, L.P. (1993). Symbolic gesture versus word: Is there a modality advantage for onset of symbol use? *Child Development*, 64, 688–701.
- Goodwyn, S.W., & Acredolo, L.P. (1996). *Baby signs: How to talk to your baby before your baby can talk*. New York: McGraw-Hill.
- Goodwyn, S.W., Acredolo, L.P., & Brown C.A. (2000). Impact of symbolic gesturing on early language development. *Journal of Nonverbal Behavior*, 24, 81–103.
- Gregory, S. (1994). The first signs and words: Language development in a bilingual environment. In J. Kyle (Ed.), *Growing up in sign and word*. Bristol, UK: Centre for Deaf Studies.
- Halliday, M.A.K. (1979). One child's protolanguage. In M. Bellowa (Ed.), *Before speech* (pp. 171–190). London: Cambridge University Press.
- Holmes, K.M., & Holmes, D.W. (1980). Signed and spoken language development in a hearing child of hearing parents. *Sign Language Studies*, 28, 239–254.
- Holowka, S., Brosseau-Lapre, F., & Petitto, L.A. (2002). Semantic and conceptual knowledge underlying bilingual babies' first signs and words. *Language Learning*, 52, 205–262.
- Johnstone, J.C., Durieux-Smith, A., & Bloom, K. (2005). Teaching gestural signs to infants to advance child development: A review of the evidence [Electronic version]. *First Language*, 25(2), 235–251.
- Lapinski, S. (1996). Signs of intelligence. *Child*, 11(4), 46–51.
- Littlebearsigning.com. (2009). Testimonials page retrieved May 20, 2009, from <http://www.littlebearbabysigning.com/id3.html>
- Machado, J.M. (2007). *Early childhood experiences in language arts: Early literacy* (8th ed.). Clifton Park, NY: Thomson Delmar Learning.
- Moore, B., Acredolo, L.P., & Goodwyn, S.W. (2001, April). *Symbolic gesturing and joint attention: Partners in facilitating verbal development*. Paper presented at annual meeting of the Society for Research in Child Development.
- Orlansky, M.D., & Bonvillian, J.D. (1988). Early sign language acquisition. In M.D. Smith & J.L. Locke (Eds.), *The emergent lexicon: The child's development of a linguistic vocabulary* (pp. 263–292). San Diego: Academic Press.
- Petitto, L.A., Katerelos, M., Levy, B.G., Gauna, K., Tetreault, K., & Ferraro, V. (2001). Bilingual signed and spoken language acquisition from birth: Implications for the mechanisms underlying early bilingual language acquisition. *Journal of Child Language*, 28, 453–496.
- Pizer, G., Walter, K., & Meier, R.P. (2007). Bringing up baby with Baby Signs: Language ideologies and socialization in hearing families. *Sign Language Studies*, 7(4), 387–429.
- Sebrey, L. (2008). *The parents' guide to baby signs*. Washington DC: Gallaudet University Press.
- Signingtimes.com. (2009). Our Story page retrieved May 20, 2009, from <http://www.signingtime.com/aboutus/our-story/>
- Snow C., De Blauw, A., & Van Roosmalen, G. (1979). Talking and playing with babies. In M. Bellowa (Ed.), *Before speech* (pp. 269–288). London: Cambridge University Press.
- Stokoe, W.C. (1960). Sign language structure: An outline of the visual communication systems of the American deaf. Buffalo, NY: University of Buffalo Department of Anthropology and Linguists.
- Tinybabysigns.com. (2009). Testimonials page retrieved May 26, 2009, from <http://www.tinybabysigns.com/id78.html>
- Yourtalkingbaby.com. (2009). Testimonials page. Retrieved May 27, 2009, from http://www.yourtalkingbaby.com/index.php?main_page=page&id=2
- Yule, G. (1996). *The study of language*. Cambridge, UK: Cambridge University Press.

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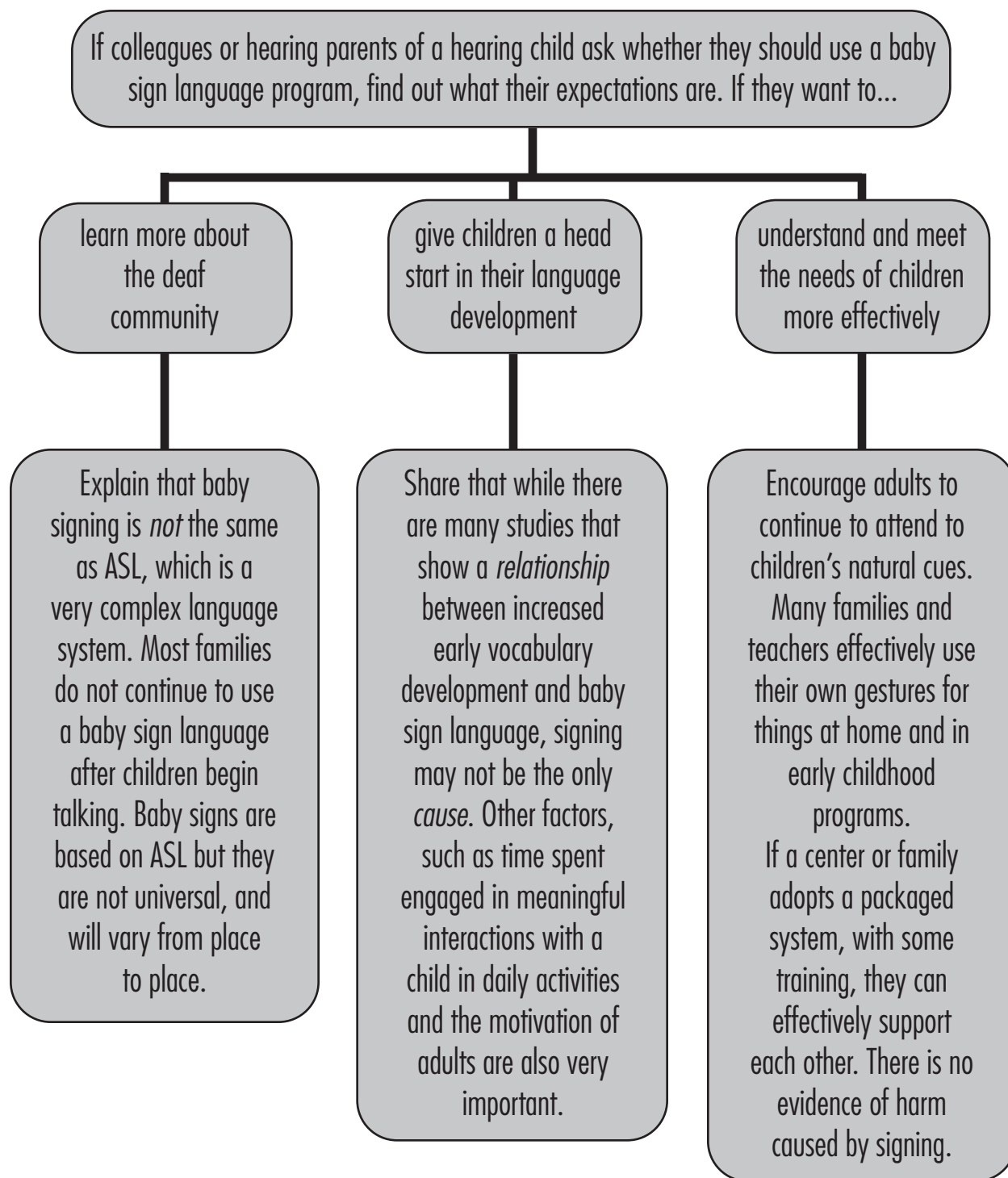
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