

Gallaudet University
Laurent Clerc National Deaf Education Center

A Good Start: Suggestions for Visual Conversations with Deaf and Hard of Hearing Babies and Toddlers

By Patricia Elizabeth Spencer, Ph.D.
January 2001

Introduction

Researchers have found that children whose hearing loss is identified while they are still babies tend to learn language more easily and more completely than those whose hearing loss is identified later (Yoshinaga-Itano, Coulter, & Mehl, 1998). Procedures for testing hearing have improved recently, with many states testing for hearing soon after birth. This means that many children are discovered to be deaf or hard of hearing during the important first few months of life. In many cases, this gives their parents a great advantage in seeking and providing the kind of support that enables their children to learn language naturally and on time.

Until recently, little information was available to help parents with this task. However, during the 1980s and 1990s several groups of researchers around the world studied babies and toddlers with hearing loss. The research teams watched the babies grow, measured their achievements, and identified the kinds of interaction with parents and other adults that gave them the best start.

One of the most active groups of researchers worked at Gallaudet University at the Center for Studies in Education and Human Development. As a member of that group, my special interest was studying how babies learn to communicate and use language. I also studied the babies' mothers, noticing things they did that gave the babies especially good support for language development.

More than 100 families participated in this research while their babies (hearing, deaf, or hard of hearing) were between 3 and 28 months old. Some of the parents were hearing and some were deaf. Thanks to the willingness of these families to participate in research, much better information now exists about the development of deaf and hard of hearing babies and toddlers.

Research from around the world confirms three important ideas:

- 1) Deaf and hard of hearing babies (just like hearing babies) learn language best in natural situations with people who care about them and know them well.
- 2) Both hearing and deaf parents have natural "instincts" about the kinds of behaviors to use with a baby (Papousek & Papousek, 1987; Koester, 1992;



Copyright © 2001 All Rights Reserved
Laurent Clerc National Deaf Education Center
Gallaudet University
800 Florida Ave. NE, Washington, DC 20002
<http://clerccenter2.gallaudet.edu/KidsWorldDeafNet>



Erting, Prezioso, & Hynes, 1994). They know how to play with babies, how to show their babies how much they love them, and how to communicate with their babies even before the babies can use language. Most of these special parenting behaviors match the needs of all babies: deaf, hearing, or hard of hearing.

- 3) Deaf parents emphasize some kinds of communication behaviors more than most hearing parents do. These special modifications in parent communication are particularly helpful for babies with hearing loss. When hearing parents adapt these communication behaviors to those they already know, babies who are deaf or hard of hearing seem to pay attention better and learn language earlier (Erting, et. al, 1994; Harris & Mohay, 1997; Mohay, 2000; Waxman & Spencer, 1997).

These three ideas — and suggestions based on them — are discussed in greater detail, beginning with specific suggestions for ways to communicate with deaf and hard of hearing babies and going onto additional information about the suggestions and how to put them into practice. The information comes from research, made more practical through discussions with parents and teachers.

Although many parents who read this document may have decided to use signed language with their babies, the suggestions are not limited to that communication option. Parents using spoken language or a system like Cued Speech should also benefit from these suggestions.

In this document, the suggestions generally follow a developmental order. That is, suggestions for communicating with younger babies (about birth through 5 or 6 months of age) are given first. Suggestions for older babies and toddlers (6 to 9 months to about 2 years of age) appear later. However, babies develop at different speeds; any or all of the suggestions may be helpful regardless of the age of the baby or toddler who is special to you.

In the **Appendix**, you will find a list of references for suggested additional reading material. These are references to more technical papers that will be helpful if you want to read in more detail about the research discussed here.

About the Author

Patricia Elizabeth Spencer has bachelor and master's degrees in education and a Ph.D. in Communication Disorders from the University of Texas at Dallas. She has worked at Gallaudet University for more than 22 years. During that time, she has been a diagnostic/prescriptive classroom teacher at Kendall School, the coordinator of a national assessment center for deaf and hard of hearing children, and a research scientist in the Center for Studies in Education and Human Development. As a research scientist, she was involved in longitudinal studies of the development of deaf and hard of hearing infants and toddlers.



Copyright © 2001 All Rights Reserved
 Laurent Clerc National Deaf Education Center
 Gallaudet University
 800 Florida Ave. NE, Washington, DC 20002
<http://clerccenter2.gallaudet.edu/KidsWorldDeafNet>



She is currently an associate professor in the Department of Social Work where she specializes in teaching research and evaluation courses. Spencer is a frequent speaker at local and national conferences. She has published numerous journal articles and book chapters about her research and recently co-edited a book entitled *The Deaf Child in the Family and at School*.

How This Document Is Organized:

Section I: Engage in Frequent, Positive Communication With Your Baby to Help Language Develop Faster

A More In-Depth Look:

- A) Take time to respond to your baby's needs
- B) Use as many senses as you can to send messages to a deaf or hard of hearing baby

Section II: Be Responsive — Follow the Baby's Lead

A More In-Depth Look:

- A) Notice where the baby is looking or what the baby seems to be interested in
- B) Pay attention to the baby's arm, leg, and body movements
- C) Respect the baby's right to stop playing or communicating

Section III: Help Babies See the Communication and Language That You Are Using

A More In-Depth Look:

- A) Especially with a young baby, often move your hand or body so the baby can see your communication while still looking at a toy or activity
- B) Move an object (such as a toy) in front of the baby and then move it up toward your own face — when the baby can see your face *and* the object, communicate about it
- C) Tap on an object, perhaps several times, before and after you communicate something about it
- D) Tap on the baby to signal, "Look at me"
- E) Relax — wait for the baby to look up on her own

Section IV: Gradually Modify Your Communication To Make Your Baby's Transition To Language Easier

A More In-Depth Look:

- A) When a baby shows that he or she is beginning to understand language, parents can start using very short sentences: one, two, or three words or signs at a time, plus pointing or tapping on objects



- B) Repeat words, signs, or short sentences several times and tap on objects or point to activities to show the child what you are communicating about
- C) If you use signed language, you can also use fingerspelling
- D) Don't try to send too many messages

Conclusion

Appendix

References

Suggestions for Additional Reading

Section I: Engage in Frequent, Positive Communication With Your Baby to Help Language Develop Faster

- A) *Take time to respond to your baby's needs*, to let your baby know by your smiles and your touch that he or she is loved. *Play and loving contact are almost as important as food to babies!*
- B) *Use as many senses as you can to send messages* to a deaf or hard of hearing baby. Emphasize touching games. Move your body and face and hands around in front of the baby. Emphasize your facial expressions even more than usual. Talk to the baby, too.

A More In-Depth Look:

- A) Take time to respond to your baby's needs

All babies need to develop positive bonds with parents or caregivers. These bonds develop — regardless of the hearing status of the parents or the baby — when the parents respond to their babies' needs (Lederberg & Mobley, 1990). Because young babies can't really tell us what they need, we must observe them carefully, sometimes guess, and try different things to satisfy them. Even though we sometimes have trouble figuring out exactly what a baby wants, the fact that we keep trying teaches babies how important we are to them — and how important they are to us!

It is critical to satisfy a baby's need for food and warmth and safety. It is also important to give the baby more than just those basics. Playing with the baby by exchanging smiles, by gentle touches, and with little games like peek-a-boo constitute more than "play." It is the natural way to strengthen the bond between parent and baby. It is also a natural way to communicate with the baby and build the baby's understanding of communication. Babies who feel loved and secure have extra energy available for learning language and other skills (Slade, 1987; Thompson, 1998; Vondra & Barnett, 1999).



Copyright © 2001 All Rights Reserved
 Laurent Clerc National Deaf Education Center
 Gallaudet University
 800 Florida Ave. NE, Washington, DC 20002
<http://clerccenter2.gallaudet.edu/KidsWorldDeafNet>



B) Use as many senses as you can to send messages to a deaf or hard of hearing baby

Without having to think about it, parents use special ways to communicate with young babies (Papousek & Papousek, 1987). For example, hearing parents tend to raise the pitch of their voice when they talk to babies. They talk in a “sing-song” manner with a lot of rhythm. They often repeat phrases or sentences several times, giving the baby a chance to anticipate and know what will be said next. Hearing parents also gesture a lot to their babies, often making hand movements in rhythm with their words. They use facial expressions that are usually positive or happy — and they exaggerate those facial expressions compared with those they use when talking to others. Hearing parents also touch their babies frequently, stroking their faces, arms, and legs. Sometimes they hold a baby’s feet and make “bicycling” movements with them. The important thing to note here is that hearing parents send messages to babies using more than one sense at once (Bremner, 1988). Even if a baby cannot hear the parents’ speech, the baby can receive the messages sent through the other senses.

Deaf parents use many of the same behaviors to communicate with their babies. Although many don’t use speech as often as hearing parents, they emphasize the other senses even more (Erting, et. al, 1994). They repeat signed messages again and again, and they make their signs “dance” with rhythm. Deaf parents also touch and stroke their babies’ faces and bodies often, even more often than hearing parents usually do (Maestas Y Moores, 1980). Sometimes deaf mothers make signs directly on a baby’s body. For example, I saw one deaf mother repeating “pretty baby” to her 3-month-old. When the mother made the sign for “pretty,” which is usually made touching the signer’s face, she made it on the baby’s face instead. Then she leaned back a little and signed “baby” the regular way. All the while, the mother smiled and watched her baby. When the baby smiled back at her, the mother’s smile became brighter.

In fact, deaf mothers so strongly emphasize their facial expressions with babies that they may look quite exaggerated to hearing adults. But the babies love those expressions, and watch and sometimes imitate them while smiling and laughing. In as many situations as possible, deaf mothers prefer using positive rather than negative-looking facial expressions (Reilly & Bellugi, 1996). Even when the grammar rules for sign language call for a lowered-eyebrow expression (that might look negative to a baby), deaf mothers substitute a raised-eyebrow, happy expression. These exaggerated and happy facial expressions, plus gestures or signs, make the mothers very interesting for the babies to look at — and the babies begin to learn that it is important and pleasant to watch their mothers. If hearing parents increase these kinds of communication behaviors, they will make their own communications more interesting to their deaf or hard of hearing baby, thus making it easier to keep the baby’s attention.

Section II: Be Responsive — Follow the Baby’s Lead



Copyright © 2001 All Rights Reserved
 Laurent Clerc National Deaf Education Center
 Gallaudet University
 800 Florida Ave. NE, Washington, DC 20002
<http://clerccenter2.gallaudet.edu/KidsWorldDeafNet>



A) *Notice where the baby is looking* or what the baby seems to be interested in. *Talk or sign about that object or activity.*

B) *Pay attention to the baby's arm, leg, and body movements.* These movements can tell us when the baby is excited. They might also show us that the baby is trying to communicate.

C) *Respect the baby's right to stop playing or communicating.* Sometimes babies look away or even begin to fuss when they have had too much playing — too much stimulation.

A More In-Depth Look:

A) Notice where the baby is looking or what the baby seems to be interested in.

Babies will be more interested in communicating when the baby can set the “topic” of the communication. Even as adults, we don’t like to communicate with people who seem to ignore our own ideas and interests. A friend of mine, for instance, said recently about another person, “You know, she seems determined to talk about what she herself has in mind. It really doesn’t matter what we say. She takes the conversation back to her original topic.” Needless to say, my friend and I don’t enjoy conversations with this person. Babies and young children can get the same feeling if their conversation partners keep “changing the subject” instead of following up on the child’s interest. This is the case even when the child's interest is shown through actions instead of any kind of real language.

A second reason to follow a baby's interest instead of changing the topic is that language learning occurs more efficiently when parents talk or sign about an object or activity that the baby exhibits an interest in (Tomasello, 1988). And, babies and young children whose mothers often *respond*, or follow the children’s interests, develop language more quickly than children whose mothers change the topic frequently. The benefits of responding are the same whether babies are hearing, deaf, or hard of hearing (Spencer & Lederberg, 1997; Wilson & Spencer, 1997).

Here are examples of responding and of topic changing:

- Mother *responds* or follows child’s topic: Child looks at toys spread around on floor, and then picks up a baby doll. Mother says, “Oh, a baby. You want to play with the baby?”
- Mother *changes* topic: Child looks at toys spread around on floor, and then picks up a truck. Mother, also looking around at toys, picks up a cup and saucer. “Here, Honey,” mother says, “Let’s have a tea party. Do you want a drink?”



Why do children learn easier in the responsive situation? Learning a new word is a cognitive or thinking task that requires mental energy. When a child is already thinking about an object or activity, she has only to connect a new word with that object or activity. It is a one-step task.

In the second situation, when the mother redirects the child's attention, the word-learning task becomes more complex. It involves at least three steps: the baby must figure out that the adult wants her to notice something new, then figure out exactly what and where the new thing is, then finally make the connection between the new word and that object or activity.

In some of my research, I measured responsiveness in the language of hearing mothers with deaf babies, hearing mothers with hearing babies, and deaf mothers with deaf babies. (I defined "responsiveness" as the amount of time mothers talked or signed about something the baby was already looking at or playing with.) In each group, mothers followed their babies' interest about 80 percent of the time. This is a very high percentage because it is not possible — and probably not even wise — to follow the child's topic 100 percent of the time. Because the mothers were responsive so often, I think they responded to a child's topic naturally, without having to stop and think about what to do (Spencer, Lederberg, & Waxman, 1996).

Responsiveness may come naturally when mothers are encouraged simply to play and communicate with their children. Responsiveness to children's interests can be blocked and occur less often, however, if mothers believe they must perform as teachers instead of parents. "Teacher" style is often less responsive and more redirecting or topic-changing. This redirecting style may be effective in some situations with older children, but it is not a good communication style for parents and other adults communicating with babies and toddlers.

B) Pay attention to the baby's arm, leg, and body movements

When playing with and responding to a baby, it is important to notice the movements of their bodies, especially their arms and legs. Babies often show their feelings and their readiness for play by these movements. Researchers at Gallaudet University noticed that many deaf and hard of hearing babies moved their arms and legs more often than hearing babies (Koester, Papousek, & Smith-Gray, 2000; Koester & Meadow-Orlans, 1999). One researcher reported that a hearing mother, watching her baby's movements, said that she was afraid the baby was hyperactive. A deaf mother, whose baby moved much the same way, interpreted the activity very differently. She said to the researcher, "Look at that. My baby is trying to sign something to us." Neither mother may have been correct about the meaning of her baby's activities. However, the deaf mother assumed that the activity was meaningful so she responded as though it was. Because she responded to the baby's arm and leg movements, the baby learned that those movements got mother's attention; they were a way to communicate.



C) Respect the baby's right to stop playing or communicating

It is important to keep in mind that babies, like adults, need "down time." When young babies play or communicate for a long time, they can become tired or even too excited. When this happens, babies often look away from the communication and lose their happy facial expressions (Schaffer, 1984). The best way to respond to this behavior is to wait quietly for a short time to see if the baby looks back to re-start the communication. Some babies are more sensitive than others and will need to rest more often.

Section III: Help Babies See the Communication and Language That You Are Using

A) Especially with a young baby, often *move your hand or body so the baby can see your communication while still looking at a toy or activity.*

B) *Move an object (such as a toy) in front of the baby and then move it up toward your own face. When the baby can see your face and the object, communicate about it.*

C) *Tap on an object, perhaps several times, before and after you communicate something about it. This helps the baby know what your communication is about.*

D) *Tap on the baby to signal, "Look at me."* Repeat the tapping signal or combine it with moving an object if your first try isn't successful. Remember that babies have to learn to look up when they are tapped. It doesn't happen automatically. It takes time. Be patient while the baby is learning the signal.

E) Relax — *wait for the baby to look up on her own.* You do not have to fill every moment with communication and language. It is more important to follow up on the baby's interests and make sure he or she can see your communication.

A More In-Depth Look:

A) Especially with a young baby, often move your hand or body so the baby can see your communication while still looking at a toy or activity

During the early months of life, babies spend a lot of their time watching the person communicating or playing with them. However, by 5 or 6 months of age, most babies begin to display a great interest in objects (Adamson & Chance, 1998). They want to explore objects and toys by looking at them and manipulating them. They spend more



time looking at objects and less time looking directly at parents and other people who want to communicate with them.

This stage of development presents special challenges for persons communicating with babies who are deaf or hard of hearing. A hearing child can hear and understand language even when looking at an object instead of the speaker. But, this is usually not the case for a child who is deaf or has a significant hearing loss. A child with hearing loss will hear spoken language only partially, in a distorted way, or perhaps not at all. The child needs to see the message in order to understand it. Whether the message is signed or spoken, it is helpful for the child to be able to see the face and body of the person who is sending the message. The child can get information from mouth movements, facial expression, and body language in addition to information from sound or sign.

This communication strategy was observed in my research with deaf and hearing mothers and in several other research centers around the world (Harris & Mohay, 1997; Mohay, 2000; Waxman & Spencer, 1997; Spencer & Lederberg, 1997; Spencer, et. al, 1996). It is an effective way to help deaf and hard of hearing babies see messages directed to them. The strategy of moving your hands to sign or gesture on or near something that the baby is already looking at is especially useful with younger babies. My associates and I saw both hearing and deaf mothers use this strategy; however, deaf mothers used it more often. They did this frequently when babies were younger, but began to decrease it after the babies were about a year old. This strategy particularly nurtures early language development because babies can see communication about an object without having to look away from it.

Even so, babies whose mothers used sign language sometimes looked up at their mothers after they saw the sign near the objects. When this happened, mothers usually made the sign again. That way, the baby could gradually learn to switch visual attention from the object to the mother and then back to the object. Looking from object to mother and back to object gives the baby more opportunity to connect language (including longer utterances) with the object or activity of interest. However, this switching attention skill takes time to develop. Often it doesn't happen until after 13 months of age, sometimes later.

B) Move an object (such as a toy) in front of the baby and then move it up toward your own face — when the baby can see your face *and* the object, communicate about it

Another way to help a baby see communication while looking at an object is for the mother to move an object in front of the baby. This almost always gets the baby's attention. Then the mother can continue to move the object, bringing it up near her face. When the baby can see mother and object at the same time, mother can communicate about the object. Deaf mothers do this quite often, usually signing something about the object while the baby can see both it and the mother. This is most effective when a



mother moves an object that she and the baby have been playing with together — or moves an object related to one the baby is playing with. That way, the mother can use language that is responsive to the baby's interest instead of changing the topic.

C) Tap on an object, perhaps several times, before and after you communicate something about it

Pointing to or tapping directly on an object before saying or signing something about it shows the baby exactly what the mother's language means. Deaf mothers tap on objects very often before, and sometimes after, they sign something about the object. For example, one deaf mother and her baby were playing with a ball. The mother picked up the ball, held it near her face, and tapped on it quickly about five times. This got the baby's attention. The mother then signed "ball" three times and tapped on the ball several more times before handing it back to the baby.

D) Tap on the baby to signal, "Look at me"

Sometimes deaf mothers also tap or pat with a flat hand directly on their babies' shoulders, arms, or legs, to signal them to look up for communication. Although hearing people use this signal occasionally to get a person to look at them, it isn't often used by hearing mothers with their babies. But it is an important tool to use with deaf and hard of hearing babies. My research showed that babies whose mothers often used this signal learned to look up at their mothers on their own earlier than babies whose mothers rarely used this signal (Spencer, 2000). And babies whose mothers used this signal often exhibited better signed language skills at 18 months and at 2 years. (For families using signed language, babies of mothers who more often used signs also had better language skills by 2 years.)

In addition, the tapping signal seemed to help babies in oral language programs to learn to look at their mothers' faces for communication. Those babies who looked up more often developed oral language better than those who did not.

Parents need to know, though, that babies don't start out understanding the tapping signal. They have to learn that it means, "Look at me." To teach them this meaning, deaf mothers usually combine the tapping signal with other communication strategies during their children's early months. For example, I observed one mother tap on her baby's shoulder, but the baby didn't look up. The mother then rubbed gently on the baby's leg. When the baby still didn't look up, the mother moved an object in front of the baby and brought it near her own face. At the same time, she tapped on the baby's shoulder again. Combining all these strategies helped get the baby's attention. This baby learned the meaning of the tapping signal before she was 18 months old. At that age, she would look up at her mother quickly when her mother tapped lightly on her shoulder.

It can be difficult to know exactly how often and how persistently to use the tapping



signal with an individual baby. Some babies seem almost to resist persistent tapping. Others quickly notice and respond to tapping. Mothers need to be careful how they use the signal, and to be sensitive to their own baby's personality. Because there are no "hard and fast" rules about how to use the tapping signal, hearing mothers may benefit from seeing deaf adults use this signal with babies.

E) Relax — wait for the baby to look up on her own

One of the best ways to ensure that a baby takes note of communication is to wait for the baby to look up, then quickly say or sign something to the baby (Spencer, Bodner-Johnson, & Gutfreund, 1992). This may require a lot of patience, because some babies will often not look up. But, when a mother communicates in an interesting and responsive way during the times that a baby does decide to look up, it is like giving the baby a reward: It encourages looking up in the future. Some deaf mothers seem especially skilled at using this strategy.

Hearing babies learn to look in the direction of a sound very soon after birth (Clifton, 1992). This apparently leads hearing babies to look around often and — after about a year of age — to look up at people frequently while playing and communicating. But what about deaf and severely hard of hearing babies? Without sounds to attract their attention, can they learn as easily to look back and forth between people and interesting objects or events? My research shows that they do indeed learn this at about 12 months — if their parents use the communication and attention signals we have discussed so far (Spencer, 2000).

Section IV: Gradually Modify Your Communication to Make Your Baby's Transition to Language Easier

A) When a baby shows that he or she is beginning to understand language, *parents can start using very short sentences: one, two, or three words or signs at a time*, plus pointing or tapping on objects.

B) *Repeat words, signs, or short sentences several times*. Also, tap on objects or point to activities to show the child what you are communicating about.

C) If you use signed language, you can also *use fingerspelling*.

D) *Don't try to send too many messages*. It is not necessary to "flood" the child with language.

A More In-Depth Look:

A) When a baby shows that he or she is beginning to understand language,



Copyright © 2001 All Rights Reserved
 Laurent Clerc National Deaf Education Center
 Gallaudet University
 800 Florida Ave. NE, Washington, DC 20002
<http://clerccenter2.gallaudet.edu/KidsWorldDeafNet>



parents can start using very short sentences: one, two, or three words or signs at a time, plus pointing or tapping on objects

It has been known for many years that hearing parents of hearing babies use short and simple sentences with their babies between about 9 and 15 months of age (Bremner, 1988). This is when babies start to show that they understand language, and most babies themselves begin to produce language. Without really thinking about it, their parents give them a "model" of language that is easy to understand and easy to learn. Then, when the babies begin to talk more, parents gradually move onto more complicated language.

The same general pattern has been noticed among deaf parents. When their deaf babies begin to understand signed language, deaf mothers start producing very short, simple, signed phrases and sentences. Research at Gallaudet University (and in Australia and the United Kingdom) shows that many deaf mothers produce mostly one- and two-sign phrases when their babies are about 12 months old (Mohay, 2000; Spencer & Lederberg, 1997; Harris, Clibbens, Chasin, & Tibbitts, 1989; Kantor, 1982; Kyle, Ackerman, & Woll, 1987).

As children begin to use language themselves, parents don't need to produce many long sentences. It seems more important for the parents' language to follow the child's interest and that the language be produced where the child can see it. Of course, deaf mothers begin to use more and longer signed sentences after their children show that they understand more — and when the children themselves begin to produce more than one word or sign in a single phrase. However, in the early stages of a child's understanding and expression of language, hearing parents should feel comfortable signing short (even one-sign) sentences to the children.

B) Repeat words, signs, or short sentences several times and tap on objects or point to activities to show the child what you are communicating about

Like hearing parents with hearing babies, deaf mothers repeat signs and short sentences again and again. This gives the babies several chances to notice them and recognize the language patterns. Babies seem to find repeated language interesting. Deaf mothers also tap on objects, point, use interesting facial expressions, and use other strategies (discussed throughout this document) to help their babies see and pay attention to language.

C) If you use signed language, you can also use fingerspelling

Hearing parents can use fingerspelling occasionally with young deaf and hard of hearing children. Although at first glance it seems fingerspelling would be difficult for children, researchers report that deaf parents use it — even with babies (Erting, Thumann-Prezioso, & Benedict, 2000). Researchers even think that occasional short



fingerspelled words might give a child a first step toward learning about letters — and this can help later in learning to read.

One hearing father who participated in my research told me a story about the way his deaf daughter showed her parents that it was all right to fingerspell to her. This child had a deaf teacher, who must have fingerspelled to her in her intervention program. But the parents had not seen this; they both thought it foolish to fingerspell to a young child. Surely it would be too hard to understand. One day, when their daughter was less than 3 years old, they noticed her standing in back of their car. She was looking carefully at the metal letters that spelled out its name. Then they saw her little fingers move: V-O-L-V-O, she spelled slowly and carefully. Once they got over their initial shock, they decided that fingerspelling wasn't too hard for her after all!

D) Don't try to send too many messages

One strategy deaf mothers use often — waiting for a child to look up before signing to them — means that deaf mothers tend to send fewer language messages to their babies than hearing mothers do in the same amount of time. Still, the signed language skills of deaf babies with deaf signing parents develop as quickly as the spoken language of hearing children (Spencer & Lederberg, 1997).

Conclusion

Finding out that a child is deaf or hard of hearing early in that child's life gives parents an opportunity to facilitate language learning in natural, everyday situations. Hearing parents naturally, without having to think about it, communicate in many ways that are effective for babies with hearing loss as well as those who are hearing. However, research with deaf parents found they emphasize some communication strategies that prove especially helpful for babies who are deaf or hard of hearing. When hearing parents add these strategies to their communication behaviors, they provide their babies with an especially good start on learning language.



Appendix

References

- Adamson, L. & Chance, S. (1998). Coordinating attention to people, objects, and language. In A. Wetherby, S. Warren, & J. Reichle (Eds.), *Transitions in prelinguistic communication* (pp. 15-37). Baltimore: P. Brookes.
- Bremner, G. (1988). *Infancy*. Oxford, UK: B. Blackwell.
- Clifton, R. (1992). The development of spatial hearing in human infants. In, L. Werner & E. Rubel (Eds.), *Developmental psychoacoustics* (pp. 135-157). Washington, DC: American Psychological Association.
- Erting, C., Prezioso, C., & Hynes, M. (1994). The interactional context of deaf mother-infant communication. In V. Volterra & C. Erting (Eds.), *From gesture to language in hearing and deaf children* (pp. 97-106). Washington, DC: Gallaudet University Press.
- Erting, C., Thumann-Prezioso, C., & Benedict, B. (2000). Bilingualism in a Deaf family: Fingerspelling in early childhood. In, P. Spencer, C. Erting, & M. Marschark (Eds.), *The deaf child in the family and at school* (p. 41-54). Mahwah, NJ: L. Erlbaum.
- Harris, M., Clibbens, J., Chasin, J., & Tibbitts, R. (1989). The social context of early sign language development. *First Language*, 9, 81-97.
- Harris, M. & Mohay, H. (1997). Learning to look in the right place: A comparison of attentional behavior in deaf children with deaf and hearing mothers. *Journal of Deaf Studies and Deaf Education*, 2(2), 95-103.
- Kantor, R. (1982). Communicative interaction: Mother modification and child acquisition of American Sign Language. *Sign Language Studies*, 36, 233-282.
- Koester, L. (1992). Intuitive parenting as a model for understanding parent-infant interactions when one partner is deaf. *American Annals of the Deaf*, 137(4), 362-369.
- Koester, L. & Meadow-Orlans, K. (1999). Responses to interactive stress: Infants who are deaf or hearing. *American Annals of the Deaf*, 144(5), 395-403.
- Koester, L., Papousek, H., & Smith-Gray, S. (2000). Intuitive parenting, communication, and interaction with deaf infants. In, P. Spencer, C. Erting, & M. Marschark (Eds.), *The deaf child in the family and at school* (pp. 55-72). Mahwah, NJ: L. Erlbaum.



- Kyle, J., Ackerman, J., & Woll. (1987). Early mother-infant interactions: Language and pre-language in deaf families. In, P. Griffiths, A. Mills, & J. Local (Eds.), *Proceedings of the Child Language Seminar*, University of York, UK.
- Lederberg, A. & Mobley, C. (1990). The effect of hearing impairment on the quality of attachment and mother-toddler interaction. *Child Development*, 61, 1596-1604.
- Maestas Y Moores, J. (1980). Early linguistic environment: Interactions of deaf parents with their infants. *Sign Language Studies*, 26, 1-13.
- Mohay, H. (2000). Language in sight: Mothers' strategies for making language visually accessible to deaf children. In, P. Spencer, C. Erting, & M. Marschark (Eds.), *The deaf child in the family and at school: Essays in honor of Kathryn P. Meadow-Orlans* (pp. 151-166). Mahwah, NJ: L. Erlbaum.
- Papousek, H., & Papousek, M. (1987). Intuitive parenting: A dialectic counterpart to the infant's precocity in integrative capacities. In, J. Osofsky (Ed.), *Handbook of infant development* (2nd ed., pp. 669-720). New York: Wiley.
- Reilly, J. & Bellugi, U. (1996). Competition on the face: Affect and language in ASL motherese. *Journal of Child Language*, 23(1), 219-239.
- Schaffer, H. (1984). Face-to-face interactions. *The child's entry into a social world* (pp. 44-78). London: Academic Press.
- Slade, A. (1987). Quality of attachment and early symbolic play. *Developmental Psychology*, 23, 78-85.
- Spencer, P. (July, 1998). Communication, attention, and symbolic development: Mothers and infants as an interactive system. International Conference for the Study of Behavioral Development. Berne, Switzerland.
- Spencer, P. (2000). Looking without listening: Is audition a prerequisite for normal development of visual attention during infancy? *Journal of Deaf Studies and Deaf Education*, 5, 291-302.
- Spencer, P., Bodner-Johnson, B., & Gutfreund, M. (1992). Interacting with infants with a hearing loss: What can we learn from mothers who are deaf? *Journal of Early Intervention*, 16, 64-78.
- Spencer, P. & Lederberg, A. (1997). Different modes, different models: Communication and language of young deaf children and their mothers. In, L. Adamson & M. Ronski (Eds.), *Research on communication and language*



disorders: Contributions to theories of language development (pp. 203-230).
Baltimore: P. Brookes.

Spencer, P., Lederberg, A., & Waxman, R. (April, 1996). Language mode and communication models. International Conference on Infant Studies. Providence, RI. April, 1996.

Thompson, R. (1998). Early sociopersonal development. In, W. Damon (Series Ed.), & N. Eisenberg (Vol. Ed), *Handbook of child psychology: Vol. 3. Social, emotional, and personality development* (5th ed., pp. 25-104). New York: Wiley.

Tomasello, M. (1988). The role of joint attentional processes in early language development. *Language Sciences*, 1, 69-88.

Vondra, J. & Barnett, D. (1999). Atypical attachment in infancy and early childhood among children at developmental risk. *Monographs of the Society for Research in Child Development*, Serial No. 258, Vol. 64, No. 3.

Waxman, R., & Spencer, P. (1997). What mothers do to support infant visual attention: Sensitivities to age and hearing status. *Journal of Deaf Studies and Deaf Education*, 2(2), 104-114.

Wilson, S. & Spencer, P. (April, 1997). Maternal topic responsiveness and child language: A cross-cultural, cross-modality replication. Biennial Conference of Society for Research in Child Development. Washington, DC.

Yoshinaga-Itano, C., Sedey, A., Coulter, D., & Mehl, A. (1998). Language of early- and later-identified children with hearing loss. *Pediatrics*, 102, 1161-1171.

Suggestions for Additional Reading

Several chapters in a recent book give more information about the topics we have discussed:

Spencer, P., Erting, C., & Marschark, M. (Eds.) (2000). *The deaf child in the family and at school: Essays in honor of Kathryn P. Meadow-Orlans*. Hillsdale, NJ: L. Erlbaum Associates.

Chapters that may be especially interesting include:

- * Erting, C., Thumann-Prezioso, C., & Benedict, B. (Discusses the way deaf parents use fingerspelling to introduce ideas related to literacy skills.)
- * Mohay, H. (Discusses a curriculum developed in Australia that teaches hearing parents to use the attention and language strategies used by deaf parents.)
- * Spencer, P. Every opportunity: A case study of hearing parents and their



Copyright © 2001 All Rights Reserved
Laurent Clerc National Deaf Education Center
Gallaudet University
800 Florida Ave. NE, Washington, DC 20002
<http://clerccenter2.gallaudet.edu/KidsWorldDeafNet>



deaf child. (Tells the story of a family and the challenges it faces in assuring its child develops language well.)

- * Swisher, M.V. Learning to converse: How deaf mothers support the development of attention and conversational skills in their young deaf children. (Discusses differences in the way deaf mothers use language and attention signals depending upon their own and their child's characteristics.)

For more research-based information about the early language development of deaf and hard of hearing children:

Spencer, P. & Lederberg, A. (1997). Different modes, different models: Communication and language of young deaf children and their mothers. In, L. Adamson & M. Ronski (Eds.), *Research on communication and language disorders: Contributions to theories of language development* (pp. 203-230). Baltimore: P. Brookes Publishers.

