



Teaching Prelinguistic Communication

Long before children learn language, they communicate with gestures, vocalizations, facial expressions, and body language. This is known as prelinguistic (prior to language) communication. Most children learn this type of communication without formal teaching, but children who are deaf-blind may need guidance to learn it.

Prelinguistic communication may be unintentional or intentional. Unintentional communication occurs when children do something that helps others to understand how they are feeling but without communicating on purpose. A smile communicates enjoyment. Turning away from something may send the message "I'm not interested." But a great deal of prelinguistic communication is intentional. It is meant to send a message to someone else. A touch may say "Hello! I know you are here" or "I need you to help me."

The more that children are able to communicate with intention, particularly using gestures, the more they can express their feelings and let others know what they need and want. Much can be communicated with simple natural gestures that have commonly understood meanings.

Prelinguistic Milieu Teaching (PMT)

When teaching communication skills, parents and teachers of children who are deaf-blind often focus on symbolic communication, which is based on objects, pictures, words, or sign language. Many children, however, may need help developing prelinguistic communication skills before they are ready to learn symbolic communication.

Recently, researchers Susan M. Bashinski and Nancy Brady completed a study on whether a specific teaching method, prelinguistic milieu teaching (PMT), can be adapted and used to improve the prelinguistic communication of children who are deaf-blind. PMT had not previously been studied in children with hearing and vision loss, although it has been found to be effective for children with other types of disabilities.

In PMT, an instructor working one-on-one with a child uses a combination of strategies to encourage and teach him or her to use gestures and vocalizations to communicate. There is a particular emphasis on teaching gestures that have conventional meanings. Children who are deaf-blind may use gestures that are understood by family members and others who know them well, but it is also helpful for them to learn gestures that are understood by a wide variety of people. This expands their potential circle of communication partners and provides more opportunities to communicate.



Intentional Communication Gestures

- ◆ Wave
- ◆ Raise hand in a "give-me-five" gesture
- ◆ Shrug shoulders
- ◆ Lead someone by the hand
- ◆ Move someone's hand to touch something
- ◆ Tap an item of interest to show to someone
- ◆ Point to something at a distance
- ◆ Point to something by touching it
- ◆ Push someone's hand away
- ◆ Push an object away
- ◆ Touch someone to get attention
- ◆ Give something to another person for help
- ◆ Extend an open hand to request something
- ◆ Clap to express enjoyment
- ◆ Choose by looking from an object to a person

Research on Prelinguistic Milieu Teaching



The purpose of PMT is to teach children to use gestures and vocalizations to communicate intentionally. Typical PMT strategies to date have assumed that children have good vision and hearing, and Drs. Bashinski and Brady wanted to find out if PMT could be adapted specifically for children who are deaf-blind. They developed a form of PMT for their study in which activities that require vision or hearing were minimized and activities that involve movement or touch were emphasized. They then tested this *adapted* form of prelinguistic milieu teaching with nine children who are deaf-blind and have additional disabilities.

During the study, each child had three or four 30-to-60 minute sessions per week for several months. The following describes important features of Adapted PMT.

Setting communication goals.

Goals are selected for each child. A goal might be to teach a child to use a new gesture or vocalization or to improve the use of a gesture that he or she already knows (e.g., using a known gesture more often or more purposefully).

Creating communication routines.

PMT takes place during routine activities, such as imitation games or taking turns playing with a favorite toy. As routine activities are repeated, they become familiar and provide opportunities for the child to have a communication interaction with another person. Routines are developed specifically for each child, take advantage of things he or she likes or finds interesting, and involve both the child and an adult communication partner in an activity together.

Arranging the teaching environment.

The area where the PMT session takes place is arranged to limit distractions and help the child focus on the activity. This includes reducing distracting noises and visual clutter. The setting should promote the social interaction that is occurring between the child and his or her communication partner. It should communicate to the child the message that "we are here right now just to 'talk' to each other."

Following the child's lead.

Although PMT sessions are based on routines, they are very adaptable. For example, each child in the study had a menu of at least five routines from which the communication partner could select, depending on the child's interests and energy level on a particular day. If a child rejected or showed no interest in one routine, the communication partner could move on to another.



Using specific strategies to increase the child's use of gestures.

During the routines, the communication partner teaches and encourages the child to use gestures and vocalizations in a variety of ways. These include things like pausing for longer than usual during a turn-taking game to give the child time to respond, encouraging the use of a gesture by gently prompting (but never forcing!) a child to use it, and demonstrating a gesture so the child can observe by watching or through touch.

How Adapted PMT was used with one child.

Lance loves brightly colored flashing lights and large movements (e.g., rocking hard in a rocking chair). He has partial vision and profound hearing loss and has a cochlear implant on one side. At the beginning of the study, when Lance was 5, he used only three gestures. The gesture he used most often was “push away,” to let people know that he didn’t like or didn’t want something. One of the goals for Lance was to teach him to use a “give to partner for help” gesture. Because he likes flashing lights, a routine was developed for him using a battery-operated ball with red, blue, and green lights that flashed when the ball was thrown to the ground or hit against a hard surface. The first part of the routine went like this:

- ◆ Lance and his communication partner, Susan, sat facing each other.
- ◆ Susan activated the ball by bouncing it on the floor. As soon as it started flashing, she would put it in Lance’s hand.
- ◆ Once the ball was in his hand, Lance would take it and hold it close to his right eye.
- ◆ When Lance had the ball, Susan would place her hands on his legs so he would always know where her hands were and could reach for them if he wanted to.



The ball flashed for about 10 seconds. During early PMT sessions, Lance appeared confused after the ball stopped flashing, but he didn’t let go of it or give it back to Susan. Susan worked with him to teach him to give the ball back to her. She used gentle movements, such as a light tap on his wrist or touch to the back of his arm, to encourage him to release the ball and extend it toward her. She also taught him to take her hand and raise it toward him. Once Susan had the ball back, she would again bounce it on the floor to activate the lights and hand it back to Lance.

After several weeks, Lance learned to independently reach for Susan’s hand and pull it toward him after the lights stopped flashing. When he did this, Susan immediately extended her open hand toward him to show she was ready to take the ball, and Lance placed it in her hand. By the end of the study Lance had a well-established “give for help” gesture.

This example illustrates one of Lance’s routines. Others were used to teach him additional gestures. By the end of the study Lance had learned six new gestures, improved his use of two of the gestures he already knew, and increased his self-initiated communication acts from one every 4 minutes to more than six every 4 minutes.

To see video clips of Lance, go to www.nationaldb.org/NCDBProducts.php?prodID=118.

What the Study Found

The progress of Lance and the other children in the study was evaluated by analyzing videotapes of the Adapted PMT sessions. The researchers counted the number of times each child communicated with intention—that is, when a child communicated *about* something *to* a communication partner using a gesture or vocalization. Drs. Bashinski and Brady expected to see that, over time, the number of times that children communicated independently would increase and the number of times they needed to be prompted to communicate would decrease. This is exactly what they found. By the end of the study, self-initiated communication had increased in all nine children, prompted communication had decreased in seven, and all nine were using new gestures.

Study Details

This study with students in Kansas and Missouri was the first to evaluate the effectiveness of the collection of techniques known as PMT, for children who are deaf-blind. See the following article for more detailed information:

Brady, N. C., & Bashinski, S. M. (2008). Increasing communication in children with concurrent vision and hearing loss. *Research and Practice for Persons with Severe Disabilities*, 33(1–2), 59–70.

A replication study by Drs. Bashinski and Brady was conducted in collaboration with the staff of the Indiana state deaf-blind project, using the same procedures with six students (the results have not yet been published). Both studies were funded by the U.S. Department of Education's Office of Special Education Programs (Award #H324D0003-05) and involved the efforts of the researchers and state deaf-blind project personnel in Kansas, Missouri, and Indiana. Additional research is needed to verify the results.

Key Points

- ◆ Prelinguistic communication is a rich form of communication that is the basis for symbolic communication development.
- ◆ The purpose of PMT is to help children increase their intentional, self-initiated use of gestures and vocalizations.
- ◆ Adapted PMT emphasizes the social nature of communication—people interacting with one another.
- ◆ Adapted PMT teaches the use of natural gestures that are easily understood by most communication partners.
- ◆ Improvements in making oneself understood increases the likelihood of a child's success in communicating with multiple partners during the crucial, early stages of communication development.

Other Resources

Fey, M. E., Warren, S. F., Brady, N., Finestack, L. H., Bredin-Oja, S. L., Fairchild, M., et al. (2006). Early effects of responsivity education/prelinguistic milieu teaching for children with developmental delays and their parents. *Journal of Speech, Language, and Hearing Research*, 49, 526–547.

Warren, S. F., Bredin-Oja, S. L., Fairchild, M., Finestack, L. H., Fey, M. E., & Brady, N. (2006). Responsivity education/prelinguistic milieu teaching. In R. J. McCauley & M. E. Fey (Eds.), *Treatment of language disorders in children* (pp. 47–77). Baltimore: Paul H. Brookes.

Greenfield, R. G. *Presymbolic communication fact sheets* (include video clip examples). Idaho Training Clearinghouse (<http://itcnew.idahotc.com/dnn/IdahoTrainingInitiatives/VideoFactSheetIntro/tabid/919/Default.aspx>).

For more information about prelinguistic communication and electronic copies of this publication (standard and large print), go to www.nationaldb.org/ISSelectTopics.php (select "Communication, Prelinguistic").

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