

CDCI Recommended Research Summary

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Developing Concepts with Children and Adults Who Have Limited or No Access to Vision and Hearing

Summarized by: Barbara Miles, Christopher Russell, Emma Nelson, Helene Gallagher, Lisa Woodward

Sources:

Miles, B., & McLetchie, B. (2008). Developing concepts with children who are deaf-blind. *National Consortium on Deaf-Blindness*.

Concepts are ideas we all have about how the world works. Concepts help us make sense of the world we live in. Children and adults who have limited access to vision and hearing or who are DeafBlind have trouble understanding their world without careful partners. They need families and teachers and friends to help them develop concepts that will lead to their happiness as adults.

Think about how much a two-year-old child who has good vision and hearing already knows about the world. He or she may already have these kinds of concepts :

- Routines (meals, bedtimes, dressing, etc.)
- The order or sequence of routines (e.g., underwear, then clothes, then coats and hats)
- How some things work (e.g., spoons, toothbrushes, water faucets, door handles, drums, bells, balls, dolls, toy cars)
- Where things are located in the house and in rooms
- Where things come from (e.g., milk from a refrigerator, and maybe later, milk from cows)

A two-year-old who can see and hear is also likely to understand a lot about how people communicate and how to fit in with the social world. He or she has learned many things just by seeing and hearing what goes on around them.

These are some of the concepts that a two-year-old with vision and hearing probably already has:

- People take turns when they talk
- Things and people have names
- People communicate with words and with their faces and bodies
- People have feelings
- People express their feelings with their faces and bodies
- Different people are interested in different things
- People can treat each other with respect

A two-year-old who can see and hear also probably already knows how to say at least 50 words. And they probably understand many more words than they can speak. A child who can see and hear and comes to school at age 5 or 6 probably already knows the language they have heard at home. Parents do not teach a child language one word at a time. Children learn language because they hear it spoken around them, and they connect the words with experiences. Gradually they make sense of the words.

A child born with reduced access to vision and hearing will not easily develop concepts or language without trusted communication partners. These children need access to what is going on around them in order to grow up to be happy adults. They also need to be in an environment that is safe, respectful, and welcoming.

Adults who are DeafBlind, or have reduced access to vision and hearing with positive self-concepts, have a good understanding of the world around them (even though they may not be able to express those concepts in words).

Here are some concepts that help a person with vision and hearing challenges to have a happy life:

- I can communicate my needs.
- I am an individual with my own interests, ideas and experiences.
- I can ask questions and get help when I don't understand things.
- Communication is about taking turns and sharing interests.
- I have feelings and I can share my feelings, and I can listen when other people share their feelings.
- I belong to a family or a group.
- I belong to a community.

- I know how to interact with people in the community in enjoyable ways.
- I can contribute to my community.
- The world is interesting, and I can explore and learn, both by myself and with others.

We cannot teach these concepts only through "lessons". What we can do every day -- at home, at school and within the community -- is to offer children experiences and routines to help them develop these concepts.

Following are some ideas about the kinds of experiences we can offer to children and adults with limited or no access to vision and hearing. Such experiences will help them develop concepts that are likely to lead to happiness in their lives.

Start by Noticing and Listening as a Way of Respect

Watch the child or adult engage with the environment around them and pause. Notice what the student's whole body is telling you, especially their hands, feet, movements, and facial expressions.

As you observe, begin to think, "I wonder what this student is thinking and experiencing right now. I wonder what concepts this student has in mind at this moment." And also notice what the student seems to be interested in.

How might you use your observation to approach an interaction with this student?



Figure 1a. A teenage girl and her intervener are on a walk in early spring. The girl is reaching her right hand down from her wheelchair to explore a flower on the ground. Her intervener watches her hand and body as a way of showing respect before entering into conversation.



Figure 1b. The intervener has imagined that the girl might be interested in smelling the flowers, so she picks a flower and they begin their conversation by smelling the flower together. Their smiles confirm their mutual enjoyment. The intervener is signing the word “flower” as part of the conversation.

Take Turns

Children and adults come to understand turn-taking through repeated experiences. A child or adult moves and a partner responds by moving with them, or by imitating their movements and by taking turns. The possible concepts being developed are “*My movements communicate. Taking turns and communicating is fun.*”

Once a child or adult learns to take turns within a playful interaction with objects and with others, they are more likely to realize they can take turns with words. Taking turns in meaningful ways and sharing interests and feelings are the basic elements of all conversational interaction and relationships.



Figure 2a. A young girl sits on the floor in a supported seat, facing her intervener. She and the intervener have their hands up in the air, ready to play a Pat-a-Cake game. She is making eye contact with her intervener.



Figure 2b. The young girl and her intervener continue in the same position on the floor and bring their hands together to pat each others' hands. The girl shifts her eyes to the right to peek at her hands as they touch the intervener's.



Figure 2c. The young girl and her intervener continue in the same position on the floor and move their hands away from each other. The girl looks at the intervener, smiles, and moves her hands closer to the intervener to indicate that she wants to continue the game.

Establish Mutual Attention and Interest in a Common Topic

Mutual attention is first established through touch if the child is blind, and/or through vision (if the child has usable vision). Individuals who are DeafBlind explore objects with their hands and bodies. If a partner explores along with the child or adult, touching alongside and pointing, looking, and smiling, it can be the beginning of a good conversation.

The possible concept being developed is *“It is fun to explore. Other people are interested in the things I like. The world is fascinating. I want to keep exploring.”* When people feel affirmed in their feelings, they develop stronger self-concepts as well as positive concepts about others.



Figure 3a. A teenager and her partner are participating in a shared experience of making bread. The partner is holding the bread dough in her hands and using natural language to talk about what they're doing. The teenager is reaching out and touching the dough with her left hand while holding the bowl with her right hand. The teenager and her partner are both smiling as they touch the bread dough together.



Figure 3b. Later, the partner notices her smile, lightly touches her cheek and comments, “I see you smiling. I’m smiling too.” A simple gesture like this can show your partner that you resonate with them -- that you share their emotion at that moment.

Use Memories as Conversation Topics

You can encourage the student to remember. You can use gestures, signs, speech, and real objects to have conversations about things you have experienced together. This will help the student develop concepts about *what has happened, what is about to happen, and what will happen.*

You can use memory boxes and memory books as concrete references to help create conversations about shared experiences. Since touch is the first sense to develop for everyone, it is often useful to incorporate touch as part of a memory book experience, especially for students who are totally blind. Memory books are also a very concrete and valuable way to share school experiences with families. This sharing allows the student to develop the concept, “My teachers and family talk with each other.”

Here are two examples of how important memory is in helping a DeafBlind individual develop concepts about how the world works.



Figure 4a. This young woman who is DeafBlind just took a walk outside together with her intervener. Along the way, they gathered some leaves, which the intervener noticed were interesting to the young woman. Back in the classroom they together tape the leaves to a piece of paper that will go into a memory book. The intervener is careful not to control the young woman's hands as they make this page together. When they regularly go through the memory book together, they have many opportunities for natural conversations that reinforce vocabulary and concepts.

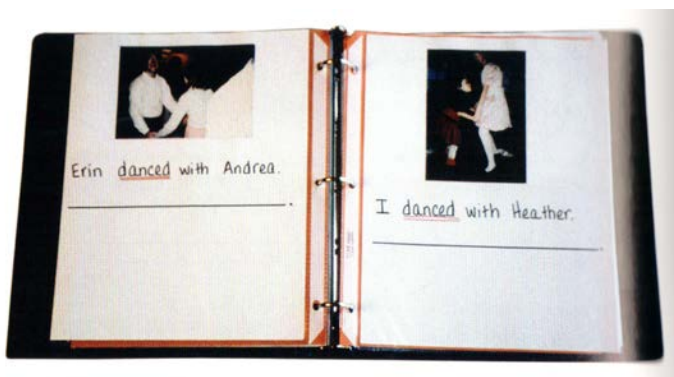


Figure 4b. A DeafBlind teenager who has some vision attended a school prom. His teacher took these photos which they later added to his classroom memory book. One photo shows a friend of his dancing with a girl and the caption written underneath says "Erin danced with Andrea." The other photo shows the teenager himself dancing with his date. The caption underneath says "I danced with Heather."

Don't Make Assumptions: Be Open to Surprise

It is easy for any of us to make assumptions about what another person means when they use language. A common example would be a child signing “mother” and a teacher or intervener making the assumption that the child is asking for their mother. But, what if the child is just thinking about her mother or wanting to tell a story about what she did with mom yesterday? If we listen carefully, a child is likely to develop a positive self-concept: “People listen to me carefully and they are really interested in what I have to say.”



Figure 5a. Imagine that this girl has just signed “mother.” Her teacher signs “mother” back to let the girl know that her message has been received. And then she pauses, as if to say, “I see that you are thinking about your mother. Do you want to say more?” The teacher might also say something like, “I wonder if you are thinking about your mother.”

Some children and adults who do not yet have formal language may be talking about real experiences when they make what might seem to be random body movements. Don't assume their gestures are meaningless. The gestures may be trying to tell a story. These “memory gestures” are sometimes referred to as bodily emotional traces (BETs).



Figure 5b. A child uses a “thinking” gesture, with the fingers on his right hand moving to the side of his head while he processes the experience he is having. If the partner notices that gesture and simply acknowledges it with a respectful, receptive touch, the child is likely to develop a positive self-concept that “people listen to me.”

Use Language to Talk About a Concept in the Moment You Think the Child or Adult has that Concept on their Mind

Conversations begin with trusting relationships that are developed over time. Both the timing and the use of meaningful words are crucial. When you are interacting with people who are DeafBlind and you can tell that they have an idea or they are thinking about an action, that is the time to use a word in a mode that is appropriate for the person. Remember, people who are DeafBlind often communicate in several modes. These modes may include movement, sound, gesture, body language, speech, objects, concrete symbols, sign and/or communication devices.

Considerations for combining modes of communication:

- Sign and/or say “jump, I see you’re happy” when you know the child is likely to be enjoying that action

- Sign and/or say “we touch cat, soft” when you and the child have just touched the cat together
- Sign and/or say “enjoy” when the child or adult is obviously enjoying the experience and invite them to touch your smile. If the child or adult is blind you can also respectfully touch the child’s own smile.



Figure 6a. A speech-language pathologist supports a child’s exploration of an adapted book by signing into her right hand. The child follows the book visually and with her left hand at the same time. This contact with the girl will give her partner the opportunity to notice when the girl seems delighted, and sign the words, “I see you like that!” at that moment.

Model Actions

Children and adults who are DeafBlind often do not have many opportunities to learn by simple observation. People with vision and hearing learn many concepts about the world by seeing and/or hearing others do things and then choosing to join in. A clear benefit of teaching by example is that, when skillfully done, it lessens the likelihood of power struggles. Providing access, wait time and repetition of experiences does require patience, but it is well worth it in the long run.



Figure 7a. This girl doesn't yet know how to brush her own hair. She has very limited vision and hearing. So her mother is leaning in closely as the daughter lies on the floor and reaches her left hand up to touch her mother's hair, feeling it move as her mother brushes it.



Figure 7b. Taken some minutes later, the girl, still lying next to her mother, reaches for the hairbrush and briefly brushes her own hair. We could guess that she might have a concept now that says something like, “My mother brushes her hair, and I want to try doing that, too.”



Figure 7c.

Invite the Person Who is DeafBlind to have Access to the Environment

Use respectful touch and gestures to invite the person who is DeafBlind to access the world. This can provide a secure base for them to explore their environment. It is especially important to pay attention to the social environment. This may be as simple as a light touch on the shoulder or back.

The next step is to wait for them to initiate the next movement. Support the development of peer interactions and social exchanges. Model patience with wait time and respond to whatever initiations you see them make.



Figure 8a & 8b. A teacher facilitates peer-to-peer interactions, modeling for one student how to support another student with hand under hand signing, to request “more drink.”

Make Experiences Tactile and within Close Range

Many concepts are learned first with reference to the DeafBlind person’s own body and involve touch. For example, “on” and “off” can be learned by getting on and off a swing. In order for objects to be meaningful, most children and adults who are DeafBlind need to be given plenty of time to touch and explore them.



Figure 9a. Two sisters are in a cornfield. The younger sister is pushing her older sister's wheelchair close to the corn stalks so she can have a meaningful experience. The older sister reaches out her right arm to feel a stalk. Perhaps she learns that they are "tall" and "dry" and that corn grows up from the ground.



Figure 9b. A young boy is participating in his first grade science unit "All About Pumpkins." He is sitting in front of a big pumpkin, exploring it with multiple senses: vision, hearing, touch, smell, and taste. The adult partner holds pieces of the pumpkin in her hand. He pulls her hand close to his so he can smell the inside of the pumpkin, taste it and look at it more closely. This experience may help him develop the concepts that the pumpkin grew from seeds and the seeds are small, the pumpkins are big, and that pumpkins are wet on the inside and they smell good.



Figure 9c. A young boy participates in the classroom “song of the day.” He positions his body close to the teacher and the guitar in the middle of the circle. He reaches out for the teacher’s hands as she strums the guitar and sings with the class. He also places his head on the guitar in order to feel the vibration as she plays. The teacher always positions herself in the same location in the circle for the song of the day. He often moves his body close to her so he can participate. The possible concepts being developed are “People make music with instruments. Songs have a rhythm. Other people are interested in music, too. I can join in when I want.”

Use the Person’s Interests to Help Design Activities

Whenever possible, create learning opportunities while engaging in activities that are fun and interesting to the student. You will have their attention from the beginning and be able to further develop concepts through play and exploration. For example, if they are interested in lights, explore the parts of a flashlight with them. Take it apart and put it back together again. Create an opportunity to share joy while exploring how things work. It is important to develop and facilitate activities that are person-centered, based on the individual’s preferences.



Figure 10: A child is seated cross-legged on a trampoline. This student likes movement and vibration. Her favorite activity is to bounce on the trampoline with a partner's help. The teacher supports the child with a light touch under her elbows to sign her own personal "home sign" for "more jump." Notice how the teacher uses respectful touch, and allows the student to start the interaction. This develops into a turn-taking sequence. After the child has bounced, the teacher takes a turn, so that it becomes a shared activity.

Provide Interesting Materials that Encourage Exploration

When children are very young, you can watch how they explore their environment when interacting with objects when they are alone. Notice the kinds of materials that are interesting for them to explore. Do they like a particular color, texture, sound, or movement? Try to find other objects with similar qualities.

You can also notice what part of their body they use to explore: hands, mouth, feet, head, etc. Children are more likely to explore when they are comfortable and in a safe environment that encourages their curiosity.

We can set up meaningful environments for children with consistent placements of objects and materials in order to support the child to independently explore. This independent, interactive exploration is referred to as Active Learning. Active Learning helps children to learn many important self concepts as well as concepts about the world around them.



Figure 11a. A toddler is lying on a rug on her back in a “Little Room,” under a variety of interesting objects that are hanging above her. She is holding a bright pink curly string of material in each hand, and exploring a third string of material with her right foot. She is also looking at the bright pink color. Possible concepts being developed are: “The world around me is interesting and fun. I like things that are brightly colored. I like things that make noise. I can explore by myself.”

Document the Concepts that Each Individual Knows

You can take video clips of a DeafBlind person interacting, communicating and participating in activities. You can save videos that show how their understanding of concepts changes over time. Videos can help others — like new teachers or caregivers — become familiar with each person’s unique ways of thinking and interacting.

Videos can also be a tool for an intervener, teacher or family member to learn from their own successes and mistakes. You can look several times at a brief video of your own interaction with a person who is DeafBlind. You can notice how you move, if you take turns, and if your movements communicate what you were hoping. You can also notice what communication you might have missed from your partner.

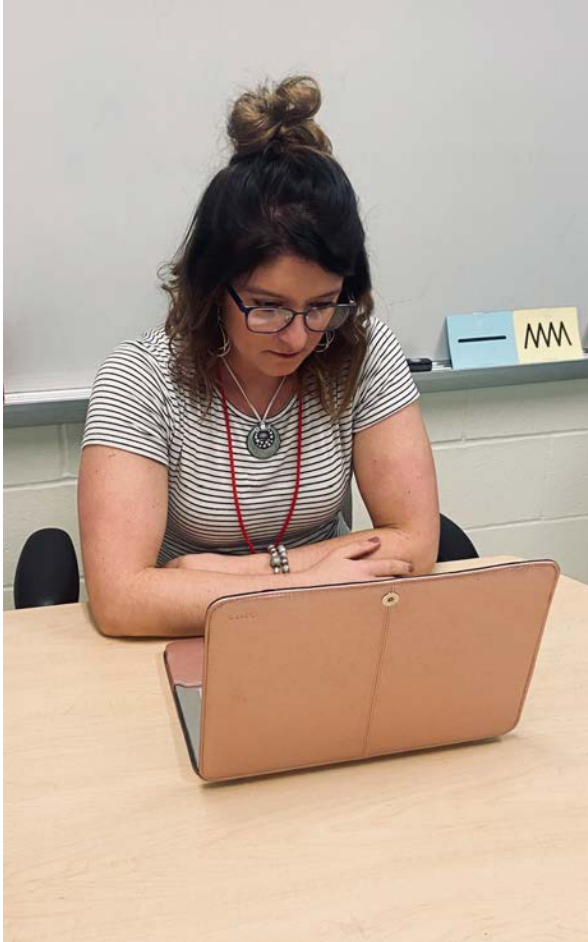


Figure 12a. A special educator is sitting at a table watching a video on her laptop of herself interacting with a student. The expression on her face shows she is thinking about her interaction with her student and learning from it. She can see things the student may be communicating that she could not see during the interaction in the moment. Perhaps she can use the insight to improve her next interaction with this student.

Use Family and School Routines for Learning Concepts

Routines are natural opportunities for learning. If things are repeated daily, weekly, seasonally, then the person who is DeafBlind has the opportunity to become used to sequences. They can also develop body memory of the actions,

and they can become more independent. It helps if the routines are enjoyable and meaningful.

In routines, it is often helpful if the partner goes first. Then they can provide a model for a child or adult who is DeafBlind. A light-hearted attitude helps.

For example, a partner might say, “I don’t like brushing my teeth either, but we have to do it to keep our teeth clean.” A light-hearted attitude can be expressed with body language if a child or adult does not know much language yet! Routines provide wonderful opportunities for developing concepts.



Figure 13a. A DeafBlind kindergartner and a woman are eating a snack side by side. The woman is chewing a cookie as the kindergartner reaches up to feel her mouth as she chews. The concept being developed might be, “Other people eat, too, and enjoy eating.” Being blind, he might not know that other people eat. He also might not have a model of table manners if he doesn’t have a partner willing to show him.



Figure 13b. A teacher is involving a child who is DeafBlind in the routine of watering the plants in the classroom. They do the job together. This gives the child the opportunity to develop many concepts, such as: “People have jobs,” “People can cooperate in the classroom,” “Plants need water to stay alive,” “When the spray bottle is empty, we need to fill it.” Notice how the teacher’s hand is underneath the student’s hand so he can follow her movements and learn the motions involved in the routine of watering the plants.

Use Objects, Pictures and Drawing to Enhance Concepts

Objects, pictures and drawings help move any conversation toward literacy. It is useful for a teacher or a parent or an intervener to remember this, especially at the moments when a DeafBlind child or adult has a strong interest in a conversation or in a particular thing.

Children and adults who are DeafBlind often need to participate in drawing an object and writing a word in order for it to have meaning for them.



Figure 14a. This boy who is DeafBlind has noticed his teacher's ring, and is very interested in it. A whole conversation about the ring followed this moment. Luckily, she noticed because she was paying attention to what he was interested in (see #1).



Figure 14b: Later on, the teacher drew the ring by placing it on a piece of paper. The boy joined in, placing his hand on hers as she drew. He also felt the motions of writing as she wrote the word “ring” on the paper. Body memory is part of learning. This boy may be developing concepts such as, “My teacher is interested in rings, too,” and “Drawing and writing are fun.” The picture of the ring and the word that names it became a part of a shared memory book that the teacher and the boy can refer back to regularly.

Include the Person who is DeafBlind in the Whole Process

Sometimes it may seem to a person who is DeafBlind that objects or people just “magically” appear or disappear. Including a child or adult who is DeafBlind in the whole process of activities is likely to help them develop a better understanding of the way things work. For example, at meal time, invite the person who is DeafBlind to join you in taking out the food from the refrigerator, utensils from the drawer, and plates from the cabinet. When it is time to make an art project, invite them to help gather the supplies. Although activities may take a little longer to complete in this way, each one will be much more meaningful and full of opportunities for learning.



Figure 15a. Two teachers include a student in a supportive walker as they go together from one activity to the next. They support the student to interact at her own comfortable pace. The teachers are kneeling down, positioned at the student's eye level. This is a child-centered interaction.

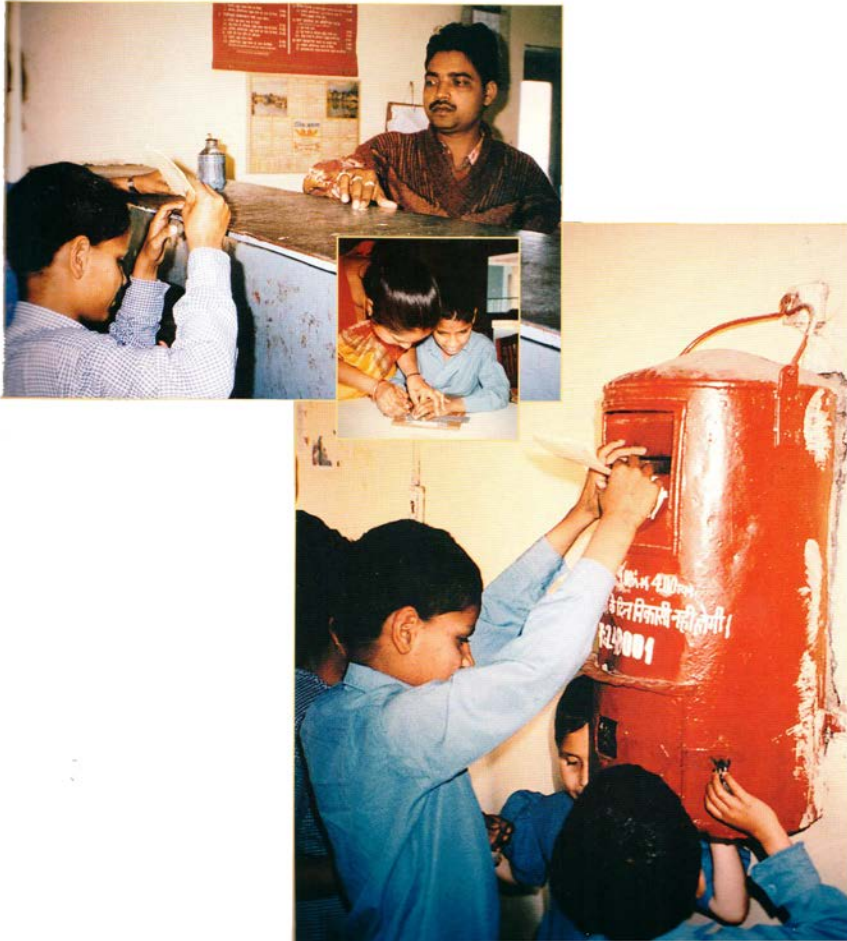


Figure 15b: This set of photos shows a boy participating in the whole process of mailing a postcard. First, he is buying postcards from a man at a counter. Next, he is sitting at a table, Brailleing the postcards with an adult. Last, he is standing with two other children, reaching his arms up to place the mail in the slot of a large red mailbox.

Learning from Each Other

Individuals with DeafBlindness have a lot to teach others around them about the way we all develop concepts. DeafBlind people will learn to explore their world more fully when their partners use these unique approaches and techniques. In turn, we who have the privilege to know people with DeafBlindness each have the opportunity to experience the world more fully in ways we never have before.

Miles, B. and McLetchie, B. (2008). *Developing concepts with children who are deaf-blind*. The National Consortium on Deaf-Blindness.

ADDITIONAL RESOURCES:

Miles, B., & Riggio, M. (Eds.). (1999). *Remarkable conversations: A guide to developing meaningful communication with children and young adults who are deafblind*. Watertown, MA: Perkins School for the Blind.

For more information on the UVM Center on Disability & Community Inclusion (CDCI) and our Research for Applied Practice (RAP) briefs, please visit <http://go.uvm.edu/cdciresearch>.

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