

Language Development and Deafblindness

University of Maryland CBSS

May 26, 2020

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Jennifer Willis: I'm going to share my screen and we'll get going. We have a lot to do. For everyone that's on, I hope you all have figured out the process for our webinars that we have side by side --

Why can't I see my screen to make you big Anna Rose?

Anna Rose: Are you in side by side?

Jennifer Willis: Yes but you and I are really tiny and I don't want that.

Anna Rose: Are you moving the little things in the middle?

Jennifer Willis: I can't. My only other option is to make Cheri our actual host. Then she can record it and view it from side by side. Because this is the problem I had before.

Cheri you are now the host. So, if you can actually be the person -- I'm going to close peoples' videos so everybody can see just the interpreter and presenter. And now I need you to enable me to screen share Cheri. Can you make me a cohost so I can screen share?

Some people are having trouble getting the sign-in link to work. But one thing at a time.

Cheri Dowling: Persila [sp?] do you have audio now?

Jennifer Willis: There's a link in the chat box for signing in. You won't leave the webinar. But that helps us get names and email addresses and keeps us accountable

for attendance for our grant.

Cheri, are you set up to record?

Cheri Dowling: You are recording.

Jennifer Willis: Perfect. Hi Karen.

Welcome everybody. Today we are talking about -- I titled it like this [On screen] but there's an error there. I should have titled this "Communication and Language Development and Deafblindness" because we know language is just a tool we use for communication and that communication is so much broader. We'll touch on both today.

Any of my Maryland teachers who are on here, if you need justification for why we are doing this and you are using these foundational skills when you are working with and teaching your students, I found -- I was on Maryland Learning Links and under the Alternate Instructional Framework it talks about communicative competence as one of those main skills.

[Reading paragraph on screen: Communication is an essential life skill . . . ]

That's why we are here today. To give you the tools to do that successfully.

Part of the why we do this is for our kids who are deaf-blind, the impact that language learning has on their social communication skills. First is missing nonverbal communication. 90% is received through vision and hearing. Children with loss in those miss that social and educational information. Motor challenges. They might struggle with signing. Spoken language if oral motor challenges or accessing a complex AAC device.

There's sometimes limited communication partners because it sometimes takes a lot of time and patience for our kids to process both take in and process a message as well as process a response and young developing children don't often take the time to sit and wait for another student or peer to respond. So they need someone who will take that time to provide them with an accessible message and wait for their response and they need someone who understands their symbols because they might not communicate typically.

There's a sense of isolation. Kids with CVI, cortical visual impairment, they might have an inability to navigate a playground or cafeteria, for example, and they can end up in a corner and feel very alone.

Inconsistent communication modalities. For some of our kids, they might use one modality expressively and one [word?] One modality might be at home and another modeled and encouraged at school.

Fatigue is huge for our kids. From trying to listen all day to decoding and processing a message. Trying to use vision sometimes for language and other tasks. Battling motor needs. Could be internal factors.

Regarding communication modalities, my little soapbox is that our children need access to rich accessible receptive language foundation level. They might have some access to sound or some to vision, but not get a complete message in one modality or another. It can be challenging to determine what's most accessible for them but they need a rich accessible receptive language model so they can develop a functional expressive language modality as well.

The brain fills in with what it knows. If you have the window down and the radio on, if you know the words to the song, you can tell what the words to the song are. But if you have never heard it and were trying to decode the words, you wouldn't be able to

probably with all the background noise. Same with kids with hearing loss when attempting to learn language and the phonetic sounds. If they don't get the complete message, they can't utilize those receptively or expressively.

Cheri Dowling: Question: At what point do you shift from exposure to access of language?

Jennifer Willis: We consistently expose our kids to full and complete language. We always provide them with that consistent exposure to a higher-level language model. But when focusing on communication and how our students communicate back to us, we will look into different modalities and some other supportive ways to let them do that if they aren't at the language level yet. Does that make sense?

Keep going?

What foundational skills are needed for our kids to be able to communicate with us and develop expressive language? A trusted relationship with caregivers. They need to be open and available for learning. They need trust in safety of environment and trust that the people working with them won't startle them. They need to have trust that people are going to respond to how they let them know they are saying "no" or that they don't like something. Having that trust and safety allows them to be open and available to that opportunity to learn and to want to communicate with others.

Our kids need real life experiences. Think of the difference in an experience at an amusement park in a stroller and if you actually got to ride the rides and get in the wave pool and actually experience fully what that had to offer. A lot of times real life experiences we can bring some things to our kids. With technology, for example, I had a deaf-blind teacher tell me the teacher can take the iPad and they can take a picture of an animal, for example, and enlarge that for the child that has lower acuity. They can have a better visual image of that animal that way. But that's not true for all deaf-blind

students. But the opportunity to have real life hands-on experiences that are holistic and complete.

Real objects for exploration. Real things they can touch, feel, that look and feel like the object. We are going to discuss more about that when we get into concept development if we have time. But utilizing real objects for our kids to explore holistically.

We need to bring the world to our kids. They don't know what's out there to search for. So we need to bring those items to them and teach them how to seek out more things in their world.

Encouraging independent exploration through touch. Hand over hand. We'll talk about that in a minute. We guide them and show them what's out there to explore, touch and experience.

Continue to foster independent. Typical kids fall and get up all the time and they struggle. Our deaf-blind kids might struggle a little bit more, but they need that opportunity to do so so that they can be independent adults.

Cheri Dowling: [Chat question: Language exposure is crucial in their environment is what I'm hearing. Be that spoken language T-ASL, ASL?]

Jennifer Willis: Correct. Language exposure, we look at what's accessible for that child. If they have profound hearing loss and we are only exposing them to English language all day long, that might not be accessible. Deaf-blind kids sometimes need access to different modalities throughout the day. They might have strong visual in the morning and then as their vision fatigues, they might have to switch from ASL to a tactile model. The same goes for kids who are hard of hearing working through cochlear implants working on the listening skill to take in the language, determine what is said and then add that layer of learning new concepts through that modality. Determining

what's most accessible for our kids and how we can scaffold and sandwich our language, learning multiple modalities at a time.

This is a random thing. I'll put this link in the chat box at the end. It's a letter to teachers from a parent. This is for early childhood teachers. It's a parent's perspective about someone coming into their home and being judges. This is applicable right now because we are all teaching in someone's home via zoom or however we are accessing their home. What their family is going through, who is in their home. It talks about having that open mind and not judging others by the look of their home or how well they can engage with you. How well they can teach their child at home and the ability to follow through. Our job as a teacher is to acknowledge and support someone wherever they are at. If I just think that person is a bad parent and can't work with that, that's on me as a bad teacher because it's my job to see the needs of an individual and modify my approach to help them be successful. We have to apply this to not just the kids but also the parents. It's something to be conscious and aware of when we try to teach through distance learning. It's frustrating for both teachers and parents. But we have to barrel through because we're going to be doing it a while longer.

Federal definition of deaf-blind in IDEA [On screen.] This is information you should have because deaf-blind doesn't necessarily mean the child must be completely blind or completely deaf. In IEP meetings, they sometimes ask why we can't put "visually impaired" or "hearing impaired" as the coding in an IEP. They can but we encourage the use of the deaf-blind code because they aren't being addressed as separate conditions. Providers need to be aware of this dual sensory impairment on concepts and development.

Hand under hand. Really when we are working with deaf-blind kids and really any student with complex learning needs, we want to use hand under hand to teach them new skills, explore new things, reach out and seek new things in their world. Not hand over hand. We don't want to use that because whose brain works then? The adult's

brain, not the child. The adult is in control of the entire interaction. With educational goals, hand over hand means 100% complete success because it's the adult doing it and not the child. The child just passively accepts having their hand controlled. I have seen goals written to teach kids to tolerate hand over hand.

For example, if the material in a sensory bin I'm asked to touch, to me feels like fire ants, why am I ever going to want to tolerate my hand being put in that? If that's my first experience with sensory material bin, I also won't want to touch anything else you provide me with. Because if I can't see it clearly, how do I know it's not the same material that feels like fire ants to me? Then the child is deemed noncompliant for not tolerating something that they don't have control of that they can't say they don't like. So we use hand under hand.

Other reasons we use it. It allows access to ways people use their hands. For children who aren't incidentally seeing how adults use their hands, picking things up, pulling things apart, squeezing playdoh, all those ways.

Provides spatial awareness through tactile experience. Feeling the width or depth of a sensory bin, how large a tray is, what's on that space that they can seek out, where objects are.

It encourages authentic involvement. The goal of hand under hand is starting with the adult's hand under the child's with the adult exploring the item or whatever is going on. Eventually if the child accepts it, the adult's hand can slowly slide out and remove themselves. That encourages the child to more independently explore the material, the object. But it's a way to bridge that so the child knows it's safe and okay to touch and it won't be a negative experience and then the adult can slowly back out of that.

It stimulates curiosity. Kids are more willing to try new things in a trusted situation. Sighted kids develop curiosity by seeing what someone has, for example. This helps



our kids stimulate curiosity through touch, by the adult playing with something, for example.

Prepare for tactile signing. Lots of kids are tactually defensive with new textures, new experiences, even people touching them. This might not happen right off the bat. Sometimes people go right to hand over hand because of this. But it might have to be developed. Maybe starting with a less invasive space like the elbow or shoulder. And developing that comfort through play, tactile stimulation, and being comfortable with their hands being touched. And then preparing them for hand under hand to explore objects and then to prepare for access to tactile signing.

Joint attention is great because it's a way to show our kids it's doing something together. For sighted kids, an adult might say "Look at that bird in the sky." The child and adult are engaging in the same activity at the same time. How do we develop that in our children who are deaf-blind? We need to do that tactually.

Here's a picture of hand under hand. Carlos on the left is still resistant to touching things but is okay with his hand over mine. I could eventually slide my hand out and he was rubbing the dog himself.

On the right, Mr. Pierce is comfortable touching things. Mom is providing support at his elbow to guide him where the dog is.

Support comes in various ways allowing increasing independence.

Cheri Dowling: Question: What are ways to help a child explore who would rather not participate but has the ability to explore? Learned helplessness and/or lack of interest in becoming involved?

Jennifer Willis: That's our job to encourage that. Why aren't they interested in hand

under hand? Do we need to change the activity? Have we not stimulated what their motivation or likes are? Are we providing things they aren't interested in touching? And encouraging that curiosity through hand under hand. We might have to build that. It might not come right off the bat and they keep their hand on top of yours. Some of our kids don't know how to functionally play with toys. It's our goal to teach them through this joint tactile exploration. You might have to build this. Model and make it a fun experience. If kids resist, provide wait time for them to come back to us. Some kids need to resist and process information and then come back to us. Or we find ways to go to them. Maybe we bring it to a different part of their body. Maybe start at the feet. Or maybe rub the object on their arm and then slowly bring it to them and get it under their hand. Sometimes it has to be built. But hopefully it leads to more engagement from kids and them finding more interest in a variety of stuff.

Cheri Dowling: [Chat comment: The timeline is when they are ready.]

Jennifer Willis: Yes and we should encourage and support that. But if they aren't ready to engage and they shut down then they won't want to participate in anything with us because they will lose that trust. It's developing that trusted relationship.

This is a cute video of Orion and his mom. This is to see how she uses hand under hand to help him explore a meal together.

[Captioned video playing on screen.]

Jennifer Willis: All right, and then he's done.

Oops. There we go.

Orion is a classic example because he's completely deaf and blind and his family is deaf so they have provided him with hand under hand and tactile sign language since the

day he was born. But that was a nice example of Mom modeling how adults eat because Orion doesn't see that people eat these foods too, that they are safe, what happens at mealtime. It's a way to be social and engage together using hand under hand.

Another thing we give our kids is wait time. Children with deafblindness need more time to process information, the whole thing. Decode the message, take in what is told, signed, presented to them. They need time to process that information and they often need time to plan a response to get their motor planning going, maybe rhetorically. That takes a lot of extra time.

It depends on the child's physical challenges, their communication level. In everything you are doing, just slow down and give them that wait time. You might see a lot more responses from your students that you might not have realized they were capable of if we don't give them time to respond in their manner of responding.

You don't need to read this, but it's called the balancing act [On screen.] Complex challenge for kids who have motor needs, working on those and cognitive skills at the same time. It's evident for all our kids that we have to be aware of the demands of physical motor and cognition at the same time and also the physical motor and communication. If they aren't in a fully supportive position, they might not be able to use their eyes or whatever they use to communicate.

Some kids with CVI might not be able to take in visual and auditory information at the same time. If we are providing them with sign and spoken language at the same time, they might be missing both forms.

Total communication doesn't necessarily have to mean simultaneous communication. We can use the sandwiching method. Or if they are a deaf child, maybe we give them the sign, the spoken word, and then the sign again. Or maybe the opposite way around

starting with the spoken word. Sandwiching and layering those pieces of information in different modalities because if we give them to them individually, they might get one or the other but if we give them at the same time, they might not get either of them.

Communication. We are talking about communication. There are two forms: Receptive, how someone receives and understands our message. It's not necessarily good enough to say I sent the message. We need to make sure our children have access to it and understand the message we are sending to them.

Expressive communication. How are they letting us know what they want, what they need, their likes and dislikes?

What do we need to communicate? We need a way, a form. Is that touch cues? Objects? Vocalizations, pictures, gestures, sign, speech? There's a huge range of ways that individuals communicate. It's not just signs or spoken language. And we'll look into some different ways that we can encourage those types of communicate. We need a reason to communicate. Something that was immediately relevant that can be reinforced. If I ask for something, that I can receive it. Or if I want to do something, my communicate attempts are reinforced.

If I'm a child that is in a wheelchair and I gesture that I want out of the wheelchair, if I'm not ever allowed out, why would I want to talk about vocabulary you want me to talk about then? We need to look at our kids' likes and dislikes and focus on that as foundational skills in addition to that core vocabulary we are presenting to them.

We need a topic to communicate about. So we expose children to lots of vocabulary and give them labels so they can hopefully use those to express back to us.

And a communicate partner. Someone who knows the child's language, someone who is an active listener who can respond to them. I worked with a little guy who realized he

could use his mouth and blow raspberries. Everyone of course thought it was cute and we would reinforce it and blow raspberries back to him. He had limited control of the rest of his body so he found out this is a way to engage with people and it was something he could do.

When there were peers or other adults around, he would start blowing raspberries. Kids need someone who understands their language, engages with them and responds to them.

Also, they need someone who can model how they communicate or how we want them to communicate. I've been told "We aren't using signs with Johnny because Johnny doesn't sign." Our kids need consistent language models of the language we want them to use and someone needs to teach them that language we want them to use as an expressive mode.

Cheri Dowling: [Reading chat question: How would you encourage single parents . . . ]

Jennifer Willis: A lot of our kids don't pick up on that incidental information anyway. They might not pick up where a typically sighted deaf child might be, for example, listening to mom and dad and them signing. You are the communication partner whether you are one person or 50 people. And you are teaching them but at the same time, being that person to engage with them. Learning through natural experiences too, not always direct teaching. You are their communication partner. As teachers of young kids, especially, we narrate our world all the time. "Look, I'm cleaning. I'm making dinner." Talking about how we do that step by step. Just in communicating with your child about anything and everything and during those times when you are playing with them or watching TV with them or snuggling or reading a book, you become their communication partner and teach them through modeling in those natural experiences.

Hopefully that helps.

When we look at receptive communication, what are some ways we can help get our message to our students who are deaf-blind? We can use a variety of methods including touch cues. They are a way to let a child know what is going to happen to them. Specific signals executed on a child's body. It's great if the parents and educators come up with a system, for example touch Johnny's leg every time AFO is coming. Or every time we are going to pick him up, we touch him under the arms before we do. But it doesn't have to necessarily be a fully functioning system. Touch cues can simply be a way to respect our children as human beings and give them a warning that something is about to happen. Simply rubbing their ear before we put their hearing aids on, for example.

I have seen someone just put a child's glasses on and there was no awareness of who was doing that. It's respectful for our kids to have a warning that something is about to happen.

A huge example of this is suctioning for a kid that has a trach. That can be stressful and invasive for a child. If nobody lets them know it's their turn to be suctioned before it happens, even if they can hear the machine, they might not know if it's their turn and not someone else's turn. So if we don't let them know beforehand, that stress level will increase every time that machine is turned on.

Name cues are a tactile way to identify someone. Let them know who you are and possibly you can duplicate that tactile cue, a way they can ask for someone later. People might have the same skin color, hair length, for example. If all providers look similar to our students who might have limited vision, then how do they tell people apart? Or how do they tell someone apart if it's really sunny out? Or that you are my teacher at the mall, in school, if I don't see you clearly.

This is mine. It's a slap bracelet. It's spiky. You can find these on Amazon. It has a

unique texture. If I were the PT for a student, I wear this when I introduce myself. I could do two of these and leave one in the child's communication box and the teacher could put the duplicate there in the object schedule for when I'm coming to visit. And if that student wanted to ask "When is the lady with the spiky bracelet coming to play with me?" they could pull that out of their object calendar.

It can be tactile. It should be very distinct and different. Parents sometimes it's a way your child touches you. For example, if dad always has a beard, the child might always touch Dad's beard. It can be an object, a specific way someone touches the child when they introduce themselves. Maybe they always come up and squeeze their bicep. Something unique.

Object cues are everyday objects that we use to represent activities throughout the day.

We talked about touch cues. They are a way to alert the child that something is about to happen and we do that immediately before an action. We tap the child on the face right before we are putting their glasses on, that type of thing.

We are running out of time. I won't show you guys but I'm going to send out this PowerPoint to anyone that wants it.

This is Orion again and Mom uses nice touch cues to let him know it's time for his medicine and a syringe as an object cue to let him know it's time to take his medicine. That's a nice example of using them together.

Why do we use object cues? Help a child know something is coming. Allows them to request. They can prepare for a transition. Let them know when their favorite activity is going to happen and that type of thing.

Whole objects. For parents at home now, this can be easy or complex as you make it.

These are the first place we start, with whole objects. It might be using your child's toothbrush and present with that to let them know it's time to brush their teeth. Their spoon right before it's time to eat. It doesn't necessarily have to be creating this abstract system that's overwhelming to parents to create and implement but it can be as simple as using those items in the child's daily routine and present those to them ahead of time to let them know what activity is coming next and where we're going.

Any questions?

Cheri Dowling: No questions.

Jennifer Willis: Then if we master those whole objects, we can move to more abstract, more expanded systems. This is probably more for students who are in school. This is definitely an area we should use this. But it can be at home also, if parents are ready for this. Talk about "first/then." Build our day. It starts with more concrete whole objects at the top to let the child know what's going to happen and then moving to more abstract symbols if the child demonstrates that they have an awareness of understanding of those abstract symbols.

We can use tangible symbols for kids that understand the whole object. If the child puts a hairbrush to their head and they know what it's for, we can move to taking a Dollar Store hairbrush and take just the bristles and put that I a card so it's smaller and that can represent brushing hair. This is how we move to the very concrete to more abstract. But always be aware of the abstractness of some symbols we use.

The board maker symbol here for "wait." If that didn't have the word "wait" I would think that's two people being tied together and held for ransom. Our kids might not know the abstract symbol for a clock with two hands on it. Most kids don't see round clocks. They see digital clocks. We have to think about the complexity of the pictures we use when we choose tangible symbols and picture symbols. A photo is probably the best for



representing the exact object you were using with the child.

Cheri Dowling: [Reading chat question: My child tries to HOH me a lot when I am using HUH . . . ]

Jennifer Willis: That is hand under hand. When your child hand over hands you, you are using hand under hand. So that's perfect. Do that. Reinforce that. Lots of kids do that and like to use the adult's hands to manipulate things and I haven't really figured out the research about why they do that, but it's very common and it's okay because you are then still responding to their communication. They are getting their message out by using your hands. Or they are getting to experience whatever it is, the item, the material, the activity, at their comfort level. They are using your hands because maybe they don't want to touch that creepy spaghetti. But they are cool if you do. That's perfectly fine. Go with that. And as you repeatedly experience an activity you know your child is comfortable with, see if you can back out and slowly encourage them to more independently explore something or express something to you. But that's great if they are holding your finger to explore something.

Hierarchy of symbols. Start with an identical object. Their shoe. We give that to them to let them know it's time to put their shoes on, for example so they make that identical connection between the object and the use or what it represents.

Moving to a partial or an associated object. Maybe not their exact shoe but it looks similar. It's not the whole hairbrush but it's the bristly part we feel. Or half the toothbrush that still has the bristles. It can be a partial or an associated object.

Moving to photos. An identical photo of that object. We teach children to move from three-dimensional objects to two-dimensional representations. We want an identical photo of the object. A picture of their shoe, for example. So they can start making those connections.

Moving to picture symbol. If they can match that photo of their shoe to the actual shoe, making those associations, you might be able to move to a picture symbol.

Moving to print or braille. Lastly spoken words or signs. Those are last in this hierarchy because they disappear. In between the time in the living room saying it's time to brush teeth and getting to the bathroom to brush their teeth, some kids might not have that auditory or visual memory to remember from Point A to B what they are supposed to be doing. How many adults go from the living room to the bedroom and forget what they came in there for! Or between that travel you get distracted by something in the kitchen and you're off of where you were headed.

This is having something tactile and concrete that they can have with them to refer back to to remind them of where they are going. They might have their toothbrush to carry with them to brush their teeth.

The iconicity of things. When we choose objects or photos or photo symbols, what is your child's experience with a banana? If it's just the cut up banana on their tray and we give them a photo of a whole banana to symbolize snack time, how will they know that's their banana? We have to teach the associations for the symbol we are giving them and what it represents that they are familiar with.

I have four minutes left. I don't know if we want to keep going beyond 4 p.m. or if people want to stop and ask questions. If we want to hang on or if we want to be done.

Cheri Dowling: Everybody says to keep going.

Jennifer Willis: The interpreter and captioner are okay for a little bit.

Cheri Dowling: Do you want to put up the poll for people who need to sign off?

Jennifer Willis: Please work on our evaluation if you need to go. That's helpful for us for our grant program.

This is just a review. If anyone wants more information about communication matrix, A, there is a webinar that I did on the communication matrix for Maryland school for the blind on their YouTube's site. If you subscribe, you can access the whole webinar. We are doing office hours the first Thursday in June. We'll do that solely on the communication matrix, how to go through it, answer the questions and then what to do with the results. But it's the greatest tool. Covers 7 levels from basic cries of infants all the way up to language. This is a great tool for parents and educator. There's a parent-friendly version. That's not the right website on the slide [On screen.] That's the website to find the paper copy if you want to purchase and download that. The virtual copy, it's online.

Cheri, can you type [www.communicationmatrix.org](http://www.communicationmatrix.org) in the chat box? That's the website to get to the online version for parents or educators to complete for free.

Examples of 7 levels [On screen.] The first is pre-intentional. It's a reaction to things. Crying, being wet, hungry. Basic infantile reactions.

Intentional behaviors. Parents continue to interpret the child's needs and desires from behavior. The parent knows when a child rubs their eyes, they are sleepy, for example. If a child shoves their cup off their tray, they are objecting to get their needs met.

The third level we are using those behaviors intentionally. Now instead of knocking the cup off the tray, the child throws it to you, for example. We are directing toward someone to let them know what you want.

Conventional communication. Those are the socially appropriate gestures. Shaking

our head yes, no, pointing, fist bump. Those things everyone would understand.

Concrete symbols are object cues we just talked about.

Abstract symbols might be one word or sign at a time. Kids can get stuck. They learn five signs and we say "they have abstract language." But they still might need some former foundational communication modes to be able to use for expressive as well because we aren't fully utilizing abstract language yet. They are still building.

Formal language is combining two or more symbols together. "Eat please" and that kind of thing. And starting to use grammar.

Cheri Dowling: Question. We introduce language at level 1 not 7, correct?

Jennifer Willis: No. The communication matrix is to assess where the child's expressive communication level is. We don't limit exposure to natural communication through receptively. Spoken language, tactile, whatever is accessible to the child. But we assess their level starting at that foundational level. And they might be past that. There's emerging, mastered or that no longer applies -- those are the responses available for the levels.

We can start assessing their language at that first level, but we would be providing full and complete language from the get go. We don't necessarily scaffold how we present them with language.

How do we get from one point to the other? From that first level to the second level? Sometimes we have to over-interpret the message. Sometimes parents say something kind of looked like their child telling them they didn't like something. Who cares? We go with it and hopefully shape that behavior. For example, any time a baby cries, and mom or dad goes to them, that baby learns if they cry, someone will meet their needs. We

shape that behavior by reinforcing it.

We move from intentional behavior to intentional communication. You can get in there with them when they are getting rid of that cup on the tray and be there to catch it and be involved. Then model an appropriate way if they don't want juice. "Oh, you don't want more juice."

Sabotage. Putting their favorite cookie on the shelf. Now they can't get it themselves. They have to tell you they want that thing. And shaping that behavior.

And then we can move to providing concrete items for communication. Those objects or photos. And making that available to the child. Having those objects available to the child so they can use those to say "I would like to play this activity" or "I need my diaper changed." And they use those to let you know something.

We are still pairing them with language. We pair the concrete objects with words or sign to hopefully move that child to abstract language. But we have to have that concrete form. If I sign something to you over and over but you have no object or concept to compare it to, you would never learn and internalize and use that sign because you wouldn't know what it means. Our children need concrete representations for the language in order to make those connections and use them expressively later on.

Picture of the communication matrix. This is where they plot the answers. Prelinguistic is the behavior. Then we get concrete, presenting a message. Then we get down to more abstract symbolic language.

If you signed in and gave your email, I can send this out. This is from the New York Deaf-blind Project. They took the communication matrix and made a nice chart with the levels, examples, strategies and a column for writing notes about what that child actually does.

And where are those lines coming from? I don't think I drew those. Did someone have access to drawing on this? I don't know how that happened.

But this is a great example and tool to use and I can send that out.

We won't go into concept development and we have run out of time.

I'm going to stop sharing and see if people have additional questions.

Mary, were you able to get into the link to sign in? I can send it to you, but if people are having trouble signing in on the link, let us know.

Mary, I don't know why that link doesn't like you.

We can probably stop -- oh, I didn't stop recording. Look at that. Okay.

Any additional questions? We covered a lot of information. It's one of those presentations we could talk about all day long.

Mary in Chat: Can you use a personal identifier and touch cue?

Jennifer Willis: Absolutely you can. You can use something tactile as well as a way -- once you let the child know you are there by a tap on the shoulder, you can use a specific touch cue that identifies you, that's perfectly fine. Absolutely.

Cheri Dowling: Courtney is asking, this has been beneficial to building expressive language. Is there a reason schools would not choose to integrate these tools for deaf-blind children? [Continuing to read chat question.]

Jennifer Willis: It can come from a lack of knowledge. It's having teachers seek out the additional information and skills when they aren't sure what to do. I had a conversation with another SLP about what is the love of the Big Mac and using switches for communication purposes and it's an easy go to if we aren't sure what else to do or how to build language. But it surely isn't helping our kids develop any independence or independent expressive communication because it's not their message on that Big Mac. And they just never learn necessarily what they are saying or doing. They are just taught they are supposed to hit something because someone taught them they are supposed to hit something when it's put in front of them.

That's our goal with the Deaf-blind Project educating teams and training school systems about available tools for them and ways to build communication and language for our kids. This communication matrix is available for all teachers but I'm not sure they all have had the training for that.

Tactile ASL resources. You were asking about that. Good question. I don't know there's a lot of training on that. Maybe we need to work on that as a project. You are just presenting ASL tactually. There is also another system used by deaf-blind individuals called pro-tactile. That is different cues or signals we give to a deaf-blind individual, typically on their back or arm to give them environmental awareness about what's happening around them. This can be found on the Helen Keller National website. They do a free training program and that's free until the end of this month. That's a great opportunity.

Additional resources on teaching tactile ASL. I'll have to look into that.

Karen: If my student's family is just learning sign language, what's the best way to communicate with them? Today I taught them to sign "toilet" and told him to put her hand over his hand and he learned to sign "toilet." I didn't want to overwhelm her today so I just told her what we did at school. I encourage her to come to this class, but --

baby steps. Bathroom, water. And the routine of the bathroom, if they can do that at home.

Other than that, tapping on the back. Emphasize that? I don't want to overwhelm her.

Jennifer Willis: It's definitely baby steps and we go back to talking about meeting families where they are at. If we force them to try to do more than they are capable of, they might shut down and we might not get anywhere. Sometimes the difficulty is parents might not necessarily see there's an issue if they don't see any behaviors. Often with deaf and hard-of-hearing kids they can be very independent on their own. It's work for them to ask for it, to know what sign to use, whereas it's easier for them to go get it on their own. We often see kids be very independent and get what they want and meet their own needs and then they don't have to communicate. That can work in family situations. So they get their message across through gestures or guiding and the child learns the routine just through exposure to that routine. And then they don't see the need to go into more formal language.

It's providing those baby steps one at a time and the parent can implement it one at a time and it can stick in their brain and they can work with their child.

Karen: So I'm on the right track with baby steps?

Jennifer Willis: Absolutely.

Karen: Maybe 2-3 signs per meeting. Thank you so much. I'm going to go. Thank you. I couldn't type here because I decided to use my voice.

Jennifer Willis: Yes. Whatever is easier. Karen, remember too, that thing we talked about sabotage, we have definitely used that in showing the family what's most motivating for that child, and putting that out of their reach and then they have to use a



way to communicate with someone in order to get what they want. We build that from a gesture or pulling on clothing or pointing at something, to utilizing the sign.

Karen: Thank you. Wonderful presentation.

Jennifer Willis: Thank you!

[Reading chat question: Could you use Big Macs . . . ]

That is a decent way I have seen Big Macs used. For example, a repeated line in a text, the teacher reads the story, for example "Brown Bear" and every page of that says "I see the whatever looking at me." You can program "looking at me" on the Big Mac and the child can hit that when it's time for that line in the story. An issue can arise because the child only has access to the Big Mac when it's their turn so they might not understand the purpose of hitting it or what it's saying because that button appears when they are supposed to push it and then it goes away. Because we are often using that Big Mac for an entire class, for example. If that one student could use one Big Mac for the entire story and it have that repeated line, and we work with them to build on that and pause for the child to hit the switch to complete the phrase, we might be able to show they are understanding what we are reading and it's their turn and what the purpose of the Big Mac.

Another way to use Big Mac is for things that directly correlate with what the thing is saying and can immediately be reinforced. For example, if we want to say "hi" to all the classmates in the circle in school, and the Big Mac says "hi" and only "hi" where the blue one says "hi" then they can go to each of their peers and say "hi" to them. And the students say "hi" back.

If they have a Big Mac on their tray at all times, they can learn that if they hit a switch, someone will come over and engage with them. You'll see kids hit and hit it because

they don't know what the thing is saying, or can't hear it because they have hearing loss. So they just learn to hit it because people will respond to it.

You can program it to say different things in different settings, but that might not necessarily teach our kids to communicate.

Cheri Dowling: [Reading chat question: . . . haptics.]

Jennifer Willis: No. Haptics are in the form of pro-tactile. Those are specific cues used with a deaf-blind individual to give environmental information. For example, when someone is laughing, they use a certain gesture on the back. They have specific things. If they need to go right, they will draw on the back going to the right or left. Those are identified and taught in a formal system. Touch cues is what we use with our children to alert them that something is going to happen to them. It can be created with a team or family to say "With this student, we are all using the same cues to let them know what's happening to them." When they will have their teeth brushed, when we are going to feed them, that type of stuff. So they can anticipate it across all settings and people. But it's not a formal system.

The presentation was recorded. We aren't currently recording our discussion at the moment but we did record the entire presentation until the point we started chatting. So most, but not all.

Mary asked if the communication matrix considers degenerative eye -- [continuing to read chat question.]

Anna, I don't know if you are needed anymore because we aren't recording. If anyone needs the interpreter, please let us know. But I think the person who needed the interpreter, left.

I have to read Mary's question again.

The communication matrix itself doesn't necessarily consider changes in things like vision or hearing. No, you would probably just need to reassess the child's communication level or prepare for that. I've seen kids with degenerative eye conditions. When we create object or picture schedules, if teams are working on photos but the child has a degenerative eye condition, we incorporate more the object or tactile piece because they need that because of their vision needs. It's more a team discussion about how to approach those modifications for the visual needs of that child, depending on that condition. You might have to consider that. The difference between ASL and tactile ASL won't be covered in that because they are both abstract language. It's just changing the format it's presented in, which is tactually. You aren't change the concrete form of language. But that should really start happening before they lose their vision so the child is prepared for this change in format and they can still make sense of that in different forms. Visual learners going to braille, you don't automatically have that tactile experience and pick that up right away. That has to be taught and built.

Yes, and the recording will be posted on our website. You can access it there within the next couple of days.

Mary, does take into account behavior communication which you guys can use definitely and being aware of some of the behaviors our kids exhibit and what they are trying to communicate. It doesn't necessarily tell us what they are trying to communicate. Sometimes we have to tweak that out, what that behavior is trying to tell me. But realize behavior is a communicate of trying to tell us something rather than a behavior that we need to -- Anna, what is the word for this sign? Extinct. You want to use the communication matrix for that.

Anything else? Have we racked everybody's brain to the end? A lot of you hung on with us. I appreciate that. I think we can let the captioner go at this point too because

we already kept her over.

[Transcriber dismissed at 4:30pm, ET.]