[ Please stand by for real time captions ]

Welcome to the webinar series, when worlds collide. Perkins webinars are presented throughout the year once or twice a month and sometimes weekly. This is part one of a two-part series presented in cooperation with the Western Pennsylvania school for blind children. Part two will occur at this time next week. If you're interested about future webinars or teaching resources our content includes publications, in newsletters, webcasts and others, please visit us at Perkins e-learning network. Every month we are joined by new people. If you are not now seems the Perkins welcoming slide on your screen, your Adobe meeting window may have minimized. Look for the Adobe icon at the bottom of your screen. If the green icon of people in a meeting. To keep noise levels in control we have muted your lines. A question and answer box will be provided on the screen shortly. We encourage you to post your questions as they occur and we will address them at the end. If you're seeing a pop-up screen asking you how you would like to receive a audio you can click the cancel button on your screen. We are using this conference line for audio. You do have additional controls for your screen and you may choose to enlarge and minimize the captioning area or minimized and enlarge video as they are played on screen. Just left individual audio controls for your speakers. We find headsets can be full if your speakers are not very powerful. This introduction is to give you time to make adjustments as you need them. Computer audio sometimes out of sync. If you're experiencing echoes or feedbacks or delays in audio this can sometimes be caused to your connection, your wireless connection is supported by a wired connection is best here this web session will be available tomorrow for your use. Thank you for joining this event and please note that we do our best to ensure you have a good experience. These give us your feedback and suggestions for other future topics. Is now my pleasure to introduce our speaker, Diane who has been working at a speech language pathologist for over 35 years. She is -- she is employed at the Western school for blind Tilton in Pittsburgh and she specializes in teaching communication strategies to children with vision impairment, multiple disabilities, and dual sensory impairment. Welcome to Perkins, and .

I think you are muted. Before you go few -- further, can you check your microphone?

One second, everybody.

Can you hear me, Robin?

That's the stress I don't need. I'm excited to be sharing this information with everyone and to be collaborating with Perkins. Today we are going to be presenting, I will be presenting this 1st half on communication and vision. When worlds collide. The reason for that title is whenever children have complex communication needs and they have additional vision impairment or blindness on top of it it makes the development of June occasion strategies in particular simple systems for those kids all the more challenging in something that we have to look at closely as a team when we're working here at the school. What we will be covering today on our next slide, Robin, we will be caught -- talking about p re-symbolic and symbolic communication and spending a lot of time on that. We are looking at assessing communication children -- skills of children with visual impairment and other disabilities, decision-making and then my colleagues will talk about developing goals in designing instructional programs once we make important decisions around programming our students and teaching them -- communication skills.

For our next slide it will be helpful for me to know who I am talking to work I see we have people from all over the country. It is exciting but unnerving. But good. If you can tell me what you do it will be helpful for me to see exactly who my audiences and if you will take a minute to do that, I will go ahead and start the next slide and talk about that as the next slide is coming in.

Robin, I still have the screen over my poll -- there we go.

We are going to talk about just communication because that is what we are going to be dealing with today. I think a lot of times people confuse communication and language. I want to emphasize that we are really talking about all forms of communication. The kinds of low incidence population that we are working with that the school and I will assume since you are interested in this webinar you are also working with the similar population. Communication is always in language. Language and speech does not always comprise communication. We are going to be looking at all the subtle forms that communication takes, both non-symbolic and symbolic. As we are talking today and the focus is going to be on how to recognize and facilitate those skills to the stent possible. Sometimes that leads to language, sometimes it leads to speech whenever we are using voice devices but today we're going to be emphasizing communication at all levels.

Next slide is going to talk about a quote from Phil [ indiscernible ] who I had the opportunity to mentor with. About five or six years ago he helped us establish a blind deaf classroom here it was designed around using the communication matrix and we developed appreciation of what this quote means. Communication is not -- is not just about the means of expression. Too often we set the focus of intervention place on some symbolic form without consideration for the child understanding of the purpose of communication.

We spent and we are going to spend a lot of time on those subtle forms of communication and how those really serve the underpinnings for developing symbolic communication. I really want to emphasize that I hope that want to emphasize that I hope everyone is willing to jump on board and understand that you have to teach those schools -- skills. For our students it is not something that they always have the -- people like bells and whistles and technology but we are going to spend a lot of time on the underpinnings.

The next slide looks at Dr. Van Dyke when he talks about children with sensory impairments -- impairments establish these connections at a pre-symbolic level, bonding, social interaction, and gauge meant are all elements that we have to consider prior to introducing symbolic modes of expression for our children.

The next slide emphasizes this visually. As I said earlier, we live as clinicians and educators and we live in a tech savvy world we tend to get caught in the trap of more is that her. More isn't always better if you don't have these under -- -- more is better. More isn't always better. Our students are at a higher risk because they don't move they don't see and they can't hear as well as other children that helps to establish those bonds and those pre=linguistic interactions that really is what moves you to the next slide which is honest and anyone language medication, it in your met, understanding and interacting with friends, peers, parents, everyone you need to. Let's take a look.

I called these foundational communication skills. They really are cognitive and receptive language skills that when I am doing my assessment with children and when I am working with my team we really have to look at all of these things before we talk about where we are going to take them symbolically. Let's take a few minutes and talk about the importance of these skills.

When we are talking about causality we are really talking about not just cost affect if ice press a switch the toy will go one. If I hit this busy barracks docs -- busy box something will happen. Those are important things but as a speech language pathologist I look at the progression of causality and the levels of causality because eventually using found no impact mom or dad, it will gain attention, you'll know that a child is interested in something when they use their voice or word approximation and cost affect at its highest development becomes an executive function of problem solving, understanding that if I pulled that cat tail it is going to turn around and scratch me. If I get this chair here I can get up and get the cookies I wanted. It ends up being a cause effect in terms of making social connections influencing people and things in your environment. The next bullet is object permanence. Object permanence is children with visual impairments have. It is a challenge for them depending on the extent of their loss and if they have total blindness. Object permanence is important in the terms of what I do because when children understand something is out of sight he can still ask for it. This is a lot of time I teach. Sometimes we hide or partially hide things. Sometimes I think behavior that we speculate might be trying to develop cause affect if they throw things and they hear where it lands and where might have gone and we bring that thing back to the child's. Of course we don't want that -- the kids throwing things everywhere but it's not an unusual behavior that we see and we understand it might be a way that child is trying to get a better understanding of their world and where things go and how they can get them back. I think when you're talking about object permanence, that can also progress to making associations about signs and know that things are happening. The child at home, if the parents tell me they hear the garage door opening they know daddy is home. They hear the microwave going and they know the bottle is coming up behind that. Those are all the kind of associations that Tommy that item that person isn't in that child's immediate space but they are able to understand it will be there eventually so it is an important skill. Joint attention is simply defined as two people focused on an entity, shared attention, you'd shall regard. It is that intensified shared attention on something, a toy, and it to be, another person or child in the room and right on the heels of that we are talking about Chaya Nick gave which is something last year -- triadic gays and that simply as I can look at you and look at something and look back at it and you look back at me and we know that that has completed that interactive loop and it is simply using I gaze. We will talk later about the variations in visual skills and one that is doable and one that isn't. When you can teach it and it doesn't mean they can't have joint attention but when possible we try to get that happening as well. Turn taking is another early skill that I try to include into all of my activities with my students. They are really the early conversations that children have through play. It could be focal play, it could be taking turns with singing finger play songs, it could be using a step-by-step to have partial songs and messages taking it back and forth turned. The idea is I do something then I listen, you do something and then you listened. It really is where that very early reciprocity takes place in what should you need for communication to occur symbolically at a later time.

Communicative intent is the foundational skill that I take a look at and it probably is the most important one. There are three hard markers that I'd like to consider whenever I am looking at communicative intent. First is that the child is waiting for adult attention -- attention and taking it out. If they do not get it they will persist until they get it and if they do not get it they have an alternative plan to get it. That's why we think sometimes the behavior starts to escalate and the child is starting -- trying to tell us something using a subtle form of communication. If we don't pay attention plan B kicks in and it tell us the children who are non-verbal often have communicative intent and that it's critical for the development of symbolic language. Our next slide takes a quick look at it and I will let you guys take a look at it is something that Poland and Philip Schweigert did back in 2000 and it shows children that are pre-communicative are going to need enticing to move into the realm of intentional communication. You'll see that when you look at the slide all of the children who have had some kind of p re-intentional communication in place went on to develop symbolic communication. I won't spend a lot of time there but it is very relevant to what we are talking about today.

We are going to look at modes of communication and I have these broken down into aided and on needed. At the simplest terms are of needed is anything that you don't need an outside object or picture for. That would be facial expression, localization or speech, word approximation, body movements, body language, gestures, sign language, I gaze, all of those things are considered on aided modes of expression. Aided communication includes things like objects, will a child take this and give it to you and say I need some water. Will a child use a partial object that perhaps we know that understand that a straw needs a drink and we will have just a straw on something. Do they understand pictures? Photographs, line growing, symbols, what do they understand about pictures? Speech generating device is, everything from the single message big Macs to step by steps to midrange communication needs to height tech devices that have dynamic display. IPads, leisure devices, we might get a chance to talk about that later. I am biased as a speech language pathologist, I like dedicated communication systems but I think that the home of the discussion that we won't get into today that iPad certainly -- we do use prole acute two and we do have those things here as an option for many of our students. There are many dedicated systems and ones that can serve as both.

When we look at our next slide which is communicative functions work our pictures show that I can protest something, I could try to get your attention, I can reach a point that I need to make choices and of course I always want to socially interact with peers and friends and my family there that really is the communicative functions that all those modes of expression take on. In their more sophisticated forms they also serve to gain information, not many of the students on my caseload currently are able to ask questions or even at the point where I can move them there. However, that is certainly something later down the road. There are students at our school who use the high-tech devices and use iPads communicatively and they are able to go ahead and ask questions to gain information. They correspond emotionally and develop relationships as they gain skills.

We are going to start some -- talking about the levels of communication and I think what we are going to do is go through each one. This is my favorite part because I get you to -- I get to introduce you to some of the students I work with. We will start with pre-symbolic and we will move onto symbolic. The thing I want you to notice as we are looking at the videos is that sometimes the levels are pure for lack of a better word but not so often. Almost all of the kids I work with splinters through. They splinters through intentional medication some concrete symbols, if they're tired to go back to intentional behaviors, so it's kind of it endemic fluid process depending on how the child is feeling, what they are able to do that day. I kind of see them shift. To the best that I was able to I wanted to -- show some videos of students who are working on these various levels. I do not have a video of any children working at a reflexive level, those typically of the students at our school who we consider bio-behavioral state children that our intervention with them is to raise their level of alertness and increase their state of arousal or ash arousal's we can start introducing and doing things that move them towards more intentional kinds of behavior. I don't have any of those kinds of behaviors -- any of those kinds of children but from here on and I have video to share with you.

Intentional behavior, the child is currently working on things and working on people but they are not doing it intentionally to be communicative. These are kids that will act on the bubbles, they will touch bubbles they will not hand me the bubbles and say I need those. They are kind of in rudimentary kinds of play activities that is just very cause-and-effect am hitting on things and pulling strings, beads, playing with bead toys, that kind of thing so that you know that they are interested in them and they might lean towards them but there really not doing any of the shared mutual regard attention types of behavior that we want that would make it communicative.

Let's take a look at Alayna. Alayna is the first video we will look at. This is going to be a few seconds of Alayna. We have some of our favorite so I'm just going to keep talking. We have a lot of toys. She loves bubbles and beads but as you can see her play with them is not creative. She is not tied to make a necklace out of it or putting it on her wrist are anything like that. That little strip container in front of her as a toy that I made that I put toys in that she can pull them out so it works on partially hidden objects and because she likes beads they make sound when it comes out. You can see there is her favorite toys, opals. She's not looking at me and I'm looking directly across from her. She really isn't making a lot of connection and terms of what to do with that.

The next video is Alayna again and it will be me intervening with her, not intervening but doing some into venture and pick some we know she likes those bubbles and I'm going to see if I can get her to give them to me.

If you give them to me I can help you with bubbles.

I purposely bring them up to my eyes because I want her to understand that I'm the communicative partner using an object that she Billy, really likes.

Or body language is telling me I love this, this is so much fun and she's looking for the bubbles that popped.

Alayna, should I get more? Okay. I will get more. So you saw her touch the bubbles. What I want her to do is touch the bubbles and look at me. She's at the point that just touching the bubbles isn't where I want her to go. I want her to understand the need for a partner.

Her body language is telling me I am done with bubbles .

Are you done with the bubbles? Yes, lady. My back is to you and I am done with the bubbles.

She was not going to pick something new to play with and she was going to completely turn away. She is a brief attention span at this point. That is my responsibility to beat her cues into move on and give her a new toy.

The next level of communication is intentional medication. This you are going to be seeing booty moving from intentional behavior and he always loved a lot of the stability things. This child has a lot of motor issues he is nonverbal – non-verbal .

On that video, I did a terrible job editing that and making clear is what you does is you heard his voice at the end of that he does turn and look for that and he uses his voice through it which told me at a level and he told me he was having fun with it. Whenever I ask a question he uses his voice to state that activity .

Are you looking for me? Do want to sing some more?

Can you use your voice? And later in the video he turned just a few extra seconds he would've turned that he looked at me and confirmed that's what he wanted to do. Verbuti was an intentional communicator at the time. He uses an audit Terry step scanner system. He uses that and moves to words because he them and stated to us through our assessment that he was able to understand and make basic choices. He is now using an auditory step scanning system with his head. The next slide is of Jimmy.

Jimmy was an intentional to Munich Cater caterer who had all those foundational skills and what we were trying to do is move him to concrete symbols which is leading over into that next session. I was introducing a picture of the bus but really where he was that is that turn taking sing with me and let's go back and forth. Kimmy thing about the bus one more time? Can we think about the bus one more time?

I know you've been at this for a while.

You show the picture of the bus .

Your turn.

Your turn.

Where do they go around and around?

All through the town.

Jimmy also has CPI, he has optic nerve hypoplasia. Developmental delays, he has a motor delays but he really was able to visually, he had progressed those -- to the point that his teacher was able to say I can see this sized picture. He had been eye gazing between two objects and what we did is take those two objects and assigned a picture to them to see if we could move him to a two dimensional representation but build on the scanning on the types of things that he was building on. We are going to talk a lot more about how to merge those worlds when they collide and how they move along because we did not start with the vision with Jimmy. We ended up moving to visual skills as he was able to progress their. As we get into assessment and the need to collaborate with the TBI we will talk more about that. For the purposes of discussing levels of communication let's move on now to Kathy. Cassie is ROP, she is totally blind, she also carries a diagnosis of autism and she is verbal.

Just what we can do? We can play or do some jumping.

Of course, the answer to that question was jump. Kathy is verbal however she moved from the conventional jesters, she was very eco ladylike at the time she was perseverative and she had stored expressions that she would use. They were scripted and she used them appropriately but she was not self-generative and her communication. Which is having fun and she was excited her ability to use those verbal skills were reduced a little bit. She felt that on her conventional gestures. The next clip is her using her speech, words we had targeted because she loved the sport -- the swing and you will see high was able to move to language without words.

You see Cathy used right there she used the question. It is her function echolalia that she uses.

I would also use cues with her like initial sound cues and she would say the word. I was trying to build concepts with her. Go, stop, push, which were more receptive language skills. I think Kathy is a nice -- a nice example how on any given day will very much depend on her state of being, how she was feeling, it issues feeling well, she had a lot of sleep pattern issues and she would move through those levels. She went from intentional gesturing to use of words and doing some perceptive language skills all during processions.

The next student that we are going to talk about is Nico, Nico really was moving into a realm of language. He was using concrete and abstract pictures and abstract board maker types of symbols. He was learning how to -- go ahead and watch the video .

We are working on putting two and three word symbols together to make a short phrase there .

The thing about that clip that I want to emphasize is that you have to make it fun for the children. We're going to talk about play and play-based assessment in a little bit. If it always becomes a trial, you do this and I did that, it's really our responsibility to make it interactive and fun. The other thing with Nico if he was learning to use that device and to put two and three icons together to make a short phrase. I constantly had to move through all of the other strategies and communication skills that he had used in the past, even down to objects. When he didn't have those choices, it was not a dynamic display. So it came to making choices, if I did not have it on the display I would say did you want red or green and he was able to pick the one he wanted. He was doing word approximations and whenever it was time he told me Doug on the device but he was learning the symbols and he told me fish so when did -- to confirm it I went to what he was more familiar with. He has some not really good clear signs in signing and our facility works certainly and we go there when the kids have it but his motor skills were really not to the point that he was going to be a really fluent signer so we ended up doing and just using physician and his ability to use higher tech voice output devices. Nico actually has a chromosomal disorder. To visual impairment as a result of that disorder. He also have myopia and he has a stagnant to them but his functional vision, he was able to get down to those smaller icons to see and he now I believe is on a dynamic display as well.

I want to take you to another video of D and what I want you to look at as we are going through it is to try to remember what I have been emphasizing. Moving and watching where the kids are communicating because this is one of my favorite clips and it totally gets me in the doghouse but just watch it. Look at Nico's body language .

He is getting frustrated and clumsy.

That's all we're going to do with Plato. He threw Plato at me .

I want to make a fish a cat or dog.

You want to be finished?

It took you long enough, lady. As if his body language wasn't enough, I was pushing him through this session. He gestured at the beginning of the video, I thought he was pointing to the device on the floor but really what he was trying to point to the door behind him. And I said that's not yours we are not going to play with that right now. He threw the Plato at me. So here is a little boy who was putting to and three word icons together am moving towards early language skills but he didn't have the vocabulary that he was readily able to use on the device by kept pushing him through that to try to get a couple more, extend the session a little bit and whenever I tried to take him and facilitate the I want to show him what I wanted that was all it took to focus him visually and when I said I want us fish, cat or dog and he saw the finished symbol but he literally took my hand and pressed the finish button like that's what I needed. It wasn't his most efficient means of communication at the time. I shared that video with everyone I could possibly share with you because I throw myself under the bus with this. We have to start reading those cues and we want them to work symbolically. Until that is the natural efficient way that they can do it, that probably would have been better to say Gee, you look tired, Nico, why don't we start -- stop at this point.

The final video is an example of a little boy, and the first clip you will see him using and learning how to use I gave communication between two pictures he is working on when he first came here and hit some pretty nice foundational skills established but we really use those skills to embed them into his play routines that we made object permanence, getting the mutual regard going and I will let you watch these and then we will talk about them for a minute .

Just a few things to mention with both Daylon and Nico, to the extent they can participate in, take the time to make it fun with him. With Nico it was making a cookie-cutter for the dog barking. He imitated that and made it fun. With Daylon, he was very [ indiscernible ] involved but he loved the craft and if he could hit the star on it he was able to make it work. I would put it near his hand and get him active in the play and try to encourage him to do it. The next clip you're going to see of Daylon, there is a vibrating buzz or he likes to use. I was presenting two pictures at the time. His motor skills will not take us the route to present to. He has the ability to be a direct detector. He was not able to use those hands because of his tactile defensiveness two-point if he can be inefficient communicator so his eyes, he also has TBI, on TBI range he was about nine, 9.5 so he was really able to use his eyes to look at pictures and let's watch this next clip and you will be able to see.

Trying to get a triadic days is going here, Daylon ended up moving to a quadrant of eye gazing communication system, just a low-tech one and we quickly we able to move to six, actually was eight, we had throughout we had three at the top three at the bottom and down each side. He was really quickly able to move to the point that it became more cumbersome for us to keep him at a low-tech level and it was about the time that Dyna Vox identify the iMacs system, we did a trial with iMacs and that is the system that Daylon is currently using. The video you're going to see of him is not as impressive as you're going to -- as it could be because we're teaching him to use the I gave system to seeing the turn taking song that is teacher leads in the morning circle. We made the icons a bigger, it wasn't his most successful page but it was the video we will -- we were able to get with the time restraints we had and what I want you to see is how we progressed this boy from choice making with objects to choice making with pictures, teaching him systematic ideas, to medication behavior that he is now able to take and use an electronic eye gaze device communicatively and quite successfully. If we can see that final video of Daylon.

There he got it.

There is a lot going on for Daylon. His teacher at the time and the student teacher, a lot of distractions, he's a social little boy and was looking at them but what he would do is sustained a gaze on the cell on the device, it would fill and activate his ability to take turns with the songs. Daylon epitomizes what we are tracking -- talking about moving children to levels of communication, what those functions served and all the different ways he is able, or aided and unaided to communicate with others. We're going to move along because I don't want to hurry too much through assessment.

Of course we assessed children because we -- it tell us us how they perceive the world. It tell us of their ability at time to impact it and more importantly it tell us them their desire to do that. Will these children initiate. Will they do things intentionally to make things happen. That last bullet is probably too of the biggest things that I look at because it is so easy for our population of students to become passes and not really initiate things because so much as predicted and taking care of for them. We talk about really patient waiting and not over prompting our students because if they see something they like their latencies are going to be very different regardless of their visual skills. It could be visual latencies they could be motor latencies. If we don't give them the opportunity to initiate, that is really going to impact their ability to initiate communication down the road. If we could go on to assessment, the actual types of assessment slides. Right out of the gate most of you are familiar with all of these things so not we to spend a lot of times talking about standardized tests which really fit our students, even the students that fit I might caseload, I usually can't use the norms because I've had to use some kind of tweaking to it which in its truest sense would change the validity of the test. Many times we as observational check list which tend to be developmental in nature and valid code development. Again our students splinter through those things. It is important that we have a good understanding of typical development, however it is really important that we understand that our students don't have to follow that sequence and really follow that sequence in order to be effective communicators to have symbolic systems.

Criteria and reference assessments are nice because they really -- the only comparison is the child to himself work it is how they function within a domain or play-based assessment is what we are going to spend a little bit of time talking right now about. After I say it's not on the slide and shame on me, the most important session in the person I collaborate with the most is the TBI and the classrooms that I am in the reason integrated model here at the school, the functional visual evaluation the teachers do on these students, I really cannot function without is an SOP because it is through that assessment that we determine what they can see visually, what they are able to understand visually, and it is where I get the understanding of whether a child is learning to walk or looking to learn. Those are very different things. If I've the student was showing me how patent skills through assessment -- cognitive skills through assessment and they are still learning to use their eyes and I can put them on and auditory scanning system because there y ear's have always been a source of gaining information, that is probably the route I'm going to use and let's hearken back to Jimmy. We started him with auditory scanning. As he developed those visual skills we merged them and delved tell them with their communication program but that is something -- something that take a lot of collaboration with the teacher of the visually impaired. We are able to do that and negotiate. This might not be the time to use fishing communicatively. We are always looking for Highway, a freeway, not a country road. If the child is on a country road visually, we are always going to have it there I will pull vision into the play, into my lessons so they can practice it all the time, all day long, but it might not be where we decide as a team to go communicatively with the child.

Let's go down now to play-based assessment because it is through play that we are able to really get all of the information that the child is going to show us. They are going to be on their best behavior with this, not behavior but skills. It is through play that children their and they're can -- when the connection to the actions and environment. This assessment helps us understand how a child perceives that and to what extent you can use their skills and where we have to step in and motivate them. It really is about motivating them to be able to communicate and to want to communicate.

Plate and environmental -- play and environmental access provide opportunity to participate with others. That is where that social contingency, that reciprocity contingency awareness comes into our learning and are teaching our students. Oftentimes at the school but the teachers will do and I will collaborate with them about is what can we do to prevent this kind of fairy godmother approach? How can we get that going so that things just don't appear. It is through them going and getting a box or opening a box and getting their hand under her lip and if they can't unfasten a box and mope -- and open it we will get there and near led and they can push it open they understand their materials are in there. We don't want to have the special -- the magic wand things happening too much. Children have to understand that working their environment into the use of learning their environment it really is an important part of their -- early learning experiences. It is just something that we try to be really aware of here.

I'm going to move through quickly the next couple of slides because I don't want to run out of time. When we are looking at a eight C we are looking at alternative and all the minute if communication which is achieved by any means other than oral language. People who use A A C are individuals with complex communication needs and that is certainly our population of students. Our next slide goes to the idea of A A C decision-making. We look at all of these things and sometimes one circle is bigger than the other we decide which I try to touch on before with vision but sometimes it's going to depend on their cognitive skills. They may be able to see and print the size -- print the size on the New York Times. If they don't understand the simple we may have to use a partial object or object symbol with them. It is considering all of those things as we develop and as we go through the decision-making process for AAC. Let's take a few minutes and this is the slide that when we are talking about vision when worlds collide. This quote from Mary Morse has struck me as being meaningful and true. From the prism of our spilled a speciality and in conjunction with other team members, we need to determine what is going to vision and what is going to other challenges. If we can take a look at that for a minute and I think sometimes we tend to want to grow -- go the route that is the vision and that certainly is our job as a school for blind children. But we also have to keep in mind that vision is a lot of different processes. It's a psychological process, vision does not happen in isolation, it encompasses almost every area of our systems that we use. Vision is an emotional process. People use their vision and when they're competent and motivated, stress, illness, fatigue, all play a role and how well our children are able to use our vision and a place a role as to how well I am able to use my visual system. How many of us have been but -- looking for our lost car keys and if you are stressed and emotional are not feeling well I am just not using my eyes as efficiently because my keys are handing right -- hanging right on the hook because I'm hurting.

David Brown from the California deaf/blind [ indiscernible ] back in the fall regarding vision is the mortar process and he talked about that a lot. He talked about that and the importance to look at the motor component of vision. And, finally, vision is a cognitive process. It is not just developed traction work many, many of my students can detect objects and pictures but do they recognize them? Do they understand them? Can they identify them? Can the intent to them? Can they visually discriminate tween them? Can they make associations between them so that when we are using dynamic displays when it requires them to page I can associate that image with an image on another page. Do they have memory and recall with regards to their vision? Again, it's learning to look and looking to learn. We really need to make sure we know what heart of that process the children aren't as we consider augmentative communications with them.

In this next slide I want you to look at, the best example that I can't give you as an audience, it's not perfect is there are symbols that you and I see every date that we recognize. I'm going to show you a slight in a minute that uses letters and numbers and you're going to know all the letters and numbers that you are not going to be able to understand the communicative intent, the way those symbols are used, and you really take a minute and process that. If we can go to the next slide now, Robin I would like you all to take a look at this for a minute. I'll be quiet for 15 seconds or so. We are running out of time.

I am going to start jabbering again that I love this slide because when I first looked at it I thought it really requires me to make associations to words that I have used to make me flip through my mental Rolodex to think that could be this message serves to prove how our minds can do amazing things! Impressive things! It takes symbols that we know and that's what I could've a child who sees a picture, maybe even recognizes the picture but for them to understand that when I touched that picture that you get me juice that will get me to a section on a board that gives me five different kinds of juices and drinks that I could choose from. It is the closest analogy, it's probably not perfect but it was the closest analogy that I could give to try to make the point that just because you even no something, let alone that you are learning that is the picture something. It might not be the most efficient? Way to communicate so we will always be offering these visual opportunities certainly when you harken back to the videos, what I wanted to point out is both Daylon and Alayna, our first schoolgirl in our last little guy have almost identical visual skills. They are very similar. But where Alayna is in terms of her other needs that she has and cognitively where she is, rhetorically -- mold toward cliché has many more motor skills that deadline has. And spite of Daylon's motor limitations I was able to put it. Quickly on a simple system. Alayna I'm going to have to work on those foundational skills so that ultimately she can be successful with her symbolic to medication. I have a lot of faith that she's going to be able to be at a symbolic communicator that for now her teacher and I are working on vision during different parts of her day and we're really trying to facilitate those underpinnings that are going to make her a successful communicator.

Quickly, let's finish up the last few slides. Feature matching I'm just going to blow through that because that is more of a self [ indiscernible ] kind of thing and when you are teaming with your speech language pathologist they will be able to talk about managing child skills to device features. We can go onto the next slide as we know we are running out of time.

This is something that might be helpful. It's Roland and Philip Schweigert and you will be able to use those when you are designing communication programs for the students. Finally, I think him a few minutes over, the last slide really does look at everything from whether it's your husband sticking his finger to emoticons that we use to high-tech devices to a child reaching for a glass of water, I guess my take-home message that I really want to emphasize is always look at all of the communication skills that our children bring to the table. There always communicating regardless of the level that they are communicating on and it's clinicians and teachers and educators, I really think if we work together we can move them through those levels and ultimately take them successful communicators to the extent that each of them are able to.

I'm going to say thank you and turn this over to Rob and and see where we go from here.

Thank you so much, Diane. We are getting a lot of questions. If you have a few minutes to stay with us and address some of them I think people would be interested. Let me also thank anyone who is watching on an iPhone and let us know that the videos were not to me through the mobile device. I appreciate that and we're going to look into that we can make sure there's there is more flexibility on the device.

You had mentioned, Diane, right at the end of Alayna's visual and actual visual acuity and compared it to Daylon, what is her visual acuity, do you know?

We do not have acuity on the right -- on the kids. We do use a range here -- CBI ranges and they are both functioning at range three and have very similar skills, their distance vision is not that far apart, I want to say Daylon is pushing into like a nine to 9.5 on the range, Alayna I believe is around 8.75. Again, their visual goal -- their visual skills are to the point

-- I do not have an acuity number for them.

Just to clarify for people who had follow-up questions. Diane is referring to CBI which is the can -- a visual -- a condition -- a condition regarding visual processing. A child can see objects but they can't always make sense of them. We have another -- a number of another -- a number of other webinars for CBI and you can explore some of those that we have done throughout the summer. There were a couple of follow-ups to what you just said so in looking at those.

If I could just interject, I am noticing on the closed captioning it is coming up [ indiscernible ] and when you said it

CVI and I want to make sure it is clear. The other is a very different condition.

A couple of specific questions about the students and I'm going to read these to make sure I represent them correctly. Regarding Verbuti, the device you are using with him for simple auditory step scanning and whether that system provides a single list and how would you move him to more complex auditory system.

I think you are talking about Jimmy. Jimmy was using that small step by step. He was using close word sets, what you saw him were -- using was a song turn -- taking thing. What he was using was a closed word set of about three or four words. We would have his truck, his school bus, a ball, and the tickle bug and he would access it by pressing the switch and taking his hand off. That is [ indiscernible ] scanning. Where they could go in terms of sophisticated that, a lot of those step I step have levels to them and when I get children who are building vocabulary to the point that they really need something more sophisticated, all of the high-tech devices haven't auditory scanning component to them that even if they can't ever use the pictures, they can still page and have that limitless vocabulary on a high-tech system. There are different ways to auditory scan, step scanning is what Jimmy was doing, you press it, you hear it and you stop whenever you hear the one you want. There is one that you start the scan and to take your hand off of it and it starts in automatic scan and you press it again to stop it. And then there is one that you [ indiscernible ] and you listen and listen and take your hand off of i t. Those low tech devices will not offer you that hurts the high-tech devices will offer you that -- saw the high-tech devices will offer you that. I work closely with team members because some of those things are better than others. If they have poor motor planning and they can get out there and hold it and when they are able to anticipate the sounds come off versus those repetitive moves that's the way we go here if it's a child that for whatever reasons they are just better at getting that motor movement going in and it's better for them to hit each thing and then stop, that's the way we go but your LP should be able to talk to you. We team once a week here. We are able to tweak that out and have them work with me about what they think the best motor approach would be.

Thank you.

Another question about Daylon. He was the last child who was singing the circle time song, the morning and how are you. They ask what type of visual array are you using on the iMacs with Daylon and then she ask did you thought the array and teegee think you could work up to or did you start with the simple array and change it when he got better?

This is where I followed his [ indiscernible ] lead. She really thought it was important and we kept him on the smallest icon he could use. I had to custom make an array of eight for Daylon. What we did to reduce the complexity until he was able to understand and really get the lay of the land and where those symbols were as I hid them so I can have an array of eight but then I would hide every other symbol so it was for. We kept the size where it was because more vocabulary offers less need to page and navigate the system. We did have him on the smallest icon he was able to do. The reason that the song was three because it really took it to a kind of a quicker social interaction. We did not have the time during the song as we made the icons bigger, a little bit better target for him to get and they were also -- I'm sorry -- they were abstract symbols for him. Many of his pictures I was able to through of flash drive just John load actual pictures -- just download pictures that made sense to him. For the turn taking thing we really just had to pull what made the most sense. We popped it up and I made a pop-up that went to the three array and he was able to use that. We did all of his other pages were on the eight and like I said I lost track in terms of how many pages Daylon has on his device.

Let me make this the last one and there are others and perhaps we will talk to you about sending them by mail and I don't want to neglect anyone. I want to add this one because I think it is important given that the children that use showed us were in a similar age range in this participant asks about considerations for older students, particularly students have not been taught well up to this point. They are developmentally password they would have been. What do you recommend for practitioners in that situation?

I love this question because I started at the school 30 years ago with the 15 to 21-year-old student and it is still fundamentally to me where you have to go. Because when I have had the chance to work with student teachers and student [ indiscernible ] you can put things in front of them but if they don't understand the purpose of that it is still really not going to be any different. They are still not going to be efficient communicators. Our challenge with the older kids is making it age appropriate, making sure that there are so many things in terms of best practices with students with severe disabilities that you don't really want to be using Elmo or things that really are not a ge-appropriate. However, normally, I can find something. Even if it's music or there was a girl across the way who loved the little massage think so I would use it like a makeup thing. I would get lotions and just try because what teenage girl doesn't like Bath and body Works lotions. Because that meant her sensory needs -- that met her vibrating -- met her sensory needs. They have vibrating hair brushes that could have her choose between a scented lotion she might really like or the vibrating hairbrushes. It could meet and engage her and pull her into things that maybe the interest level was there but the things that interested her or kind of on a lower level. If pulled it up to a point where kids love to do their hair, that is just one example.

We also use food a lot. We use food to establish those things with younger kids. Still think you have to do it. If they do not have those fundamental skills in place when you go back and read the Philip Schweigert and Roland study, the kids that don't have those in place are not successful. If you find yourself with the same three or four symbols and that child is 13, 14, 15 years old, you have to look at the team at where he is functioning and I think with a lot of good thoughts and I have a teenage son, you can always kind of distill things down that it does not have to be a Fisher priced -- fifth -- Fisher-Price toy. That is where my colleagues and I usually do a lot of interacting and trying to figure it out. It is challenging and I so appreciate that question a consistent area that needs a lot of discussion.

Thank you so much and I want to thank everyone for adding the questions. We will make every effort to get the questions back. I can see -- we will pick up Park to next week at this time, next Tuesday. I really -- we owe a great deal to the Western Pennsylvania school and their staff, particularly the technical support of peg [ indiscernible ]. Let me thank all of you for your contributions, staff support and assistance, we also want to thank the team at Perkins.

I want to thank all of the participants for joining us today. We did run over a little bit. We will see you next week and take care.

[ Event concluded ]