

Association of University Centers on Disabilities
Social Communication Interventions for Preverbal and Minimally Verbal Children with ASD
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[Captioner standing by]

>> ANNA COSTALAS: Hello, and welcome to the Social Communication Interventions for Preverbal and Minimally Verbal Children with ASD. My name is Anna Costalas, and I'm the resource center at AUCD. I would like to thank everyone for joining us here today. Before we begin, I like to address a few tasks. We'll provide a brief introduction of our speaker on speaker's presentation. There will be time for questions. Because of the number of participants, your telephone lines have been muted throughout the call. However, we will unmute your phone during the time of the Q & A at the end. You will press star and pound on the phone to request to be unmuted to ask you questions. If you're using a microphone on your computer, you can raise your hand by clicking on the little icon on top of the screen that looks like a person raising their hand. You can also submit questions at any point during the presentation via the chat box on the webinar consul.

And you may send a chat to the whole audience or to the presenters only. We'll compile your question throughout the webinar and address them at the end. Please note we may not be able to address every question and may combine some questions. This entire webinar is being recorded and will be able on the AUCD webinar library. There will also be an evaluation survey at the close of the webinar. We invite you to provide feedback from the webinar, and also provide suggestions for future topics. I will now pass the mic over to Dr. Mary Beth Bruder The EIC-SIG. Marybeth.

>> Thanks a lot, Anna, and thank you, all, for spending the next hour with us. We are very privileged to have our speaker, Connie Kasari, who has a very long history in working with children with autism and Autism Spectrum Disorders. Connie, I know it's very hot out at UCLA. That's the first thing I heard today is how hot it is in L.A. So we thank you for taking this time. I need to do one just reminder for anybody who's on the call from the SIG. We have our SIG meeting at AUCD on November 7th at noon. And I don't have the room, but please be there.

Connie was gracious enough to say she would do this. After I heard her at one of our MCH meeting where she talked specifically about the work done through the autism intervention and research network in behavioral health funded by MCHB, which a lot of us are funded by our LEND project.

So when I asked her to come and present, she really put together a number of studies and outcomes. Connie has been at UCLA for almost 30 years. She has her own lab. She has been

affiliated with all of the top researchers in autism, and, in particular, she really has done a lot of work with the younger kiddos that we all the focus on. I'm not going to spend anymore time. You can read all about her work, and especially, after you hear her presentation, you will want to know more about her work. So with that, I'm going to turn it over to Connie. And I must also thank her. She is taking her hour lunch from an all-day meeting to do this for us. So, thank you, Connie.

>> CONNIE KASARI: Sure, thank you. It's great to be here. It's actually great to get out of a meeting, so this is just fine. Okay. So, I'm going to talk about social communication intervention or preverbal and minimally verbal children with ASD. And I'm going try to move my slides. But you know what? They're not moving. Why is that? Hmm, let's try it. Ah-ha! Good. There we go.

So I'm going to really address three different issues in this field. First one is what should the intervention focus be for young kiddos with autism? The fact that we don't have a single effective intervention, we have many interventions. And this kind of significant issue we have in the research to practice GAP which I would imagine all of you are very concerned about.

So the first issue is can we improve core impairment in social communication? As all of you know, there are two main impairments of young children with autism. So we identify them as having these issues, and social communication, and repetitive and restricted behavior.

So we think about those early core deficits and social communication, we're really talking about their ability to engage with other people, their ability to play, and mostly this has been an imaginative or symbolic play. And then communicative gestures and language and abilities.

So just to give you a flavor of what this looks like, and I know this will be familiar to many of you. I'm going to show you couple of little boys. Both of them are approaching 3 years of age. The first one shows us what it's like to try to engage with somebody around play. And this is the first meeting he's having with a therapist to do a particular kind of intervention.

[Video Clip]

>> BOY SPEAKING:

>> CONNIE KASARI: All right. So this is supposed to be fun. This is play. But for him, this is like a task to be completed. And when he thinks it's done, he doesn't want to expand it and keep trying to play. He's really not having much fun or joy in play. Our other little guy also about 3 is playing with his dad and what you'll notice is that he's really focused. He's not really focused on the object and his dad. Even though his dad is being very, very responsive to him.

[Video Clip]

>> DAD: Oh! Cookie monster! Here, sit here. Cookie monster. How about this? What's that? Okay. Do you see this? Push, push, push. Look at that! Wow!

>> CONNIE KASARI: So many of our little ones come in often object focused and it hard for the parents because they're trying to engage them, but the child is just overly focused on the object. So why did we focus on the early core deficits? One, we know the language, the ability to speak in phrases, the sentences inside the age of 5 to 6 years of age. Those children have the best social outcome. We also know that joint attention pre-dictates the language.

When I say "joint attention" I'm really talking about those kinds of gestures that children use before they learn to talk. So as being able to point to something to share, showing a toy or something to someone else, or looking between objects and events, as to say, wow, do you see what I see? So it's a sharing experience. It's not -- I'm not referring to requesting gestures where you might point to something because you might want it. That's a different kind of gesture.

They form different functions. And then play skills are associated with cognitive abilities. So all three of these are very, very important. And evidence suggests that the approach we use teach children these kinds of skills matters for improvement and enjoying attention play and engagement. If in fact what we're trying to get is spontaneous child initiation.

So I'll just go through differences between approaching to play and so we just finished a pretty large multisite study where we were comparing where children who got a very structured form of applied behavior analysis discreet trial training in this school for an hour a day for six months. Versus they got more naturalistic ABA approach. Which would be one of these new NDBI approaches. And this one is called JASPER and I'm going to talk specifically about that one. So both of these little boys that you're going to see were 4 years of age. They had four than 5 words. So we only, in this study, we're interested in those kids who were what we would call still preverbal but developing slowly in their language. We did a play assessment at school. This is our first little guy.

[Video Clip]

>> TEACHER: Yeah! Very good. Umm-hmm. What is it? What's he doing? Yeah. Oh.

>> CONNIE KASARI: All right. So this little guy has quite a lot of intentional behaviors. So he's got the nice coordinated look between the toys and the professor. And he also says the word "milk." All that is important because when you have joint attention, you tend to do better in any therapy that's applied. So this guy has nice skills and he did make a lot of progress. He got randomized to the discreet trial training group. And, so, these are his play target about four months into therapy.

>> TEACHER: That's a phone. Yeah. Right. Look at this piano. So one more type. Pretend this book is piano. Wow! Nice work.

>> CONNIE KASARI: So right he's playing with the book as a piano pretending something is not a symbolic play act. That's well and good but this approach for teaching playing I would argue is not actually teaching play. It's teaching something a little bit different. So I think one thing to think about is that the approach that you're going to use, whether, you know, if you're going to teach something around social communication might actually better if it's more developmental, more naturalistic and where it comes from the child as opposed to from the adult. So here's our other little guy. Also, remember, 4 years of age. He was getting his play assessment in school.

>> CONNIE KASARI: So he also has a joint attention skill where he shows to the camera person. Again, important. So here he is 4 months into therapy at his school.

>> TEACHER: I see a child! Let's find the charger.

>> BOY SPEAKING: There it is.

>> TEACHER: There's the treasure. Oh!

>> BOY SPEAKING: I got some money.

>> TEACHER: Oh, I have money too!

>> BOY SPEAKING: These are coins.

>> TEACHER: These are coins. I have coins too. So much treasure. Let's find it. Oh, I see.

>> BOY SPEAKING: [Boy speaking]

>> TEACHER: Arrggg!, said the pirate.

>> BOY SPEAKING: [Boy speaking]

>> TEACHER: Oh, I see lots of tiles. Oh, the pirates crushed it. Whew! It's a star.

>> BOY SPEAKING:

>> He can read?

>> TEACHER: I see the treasure.

>> CONNIE KASARI: Okay, that's enough of that. So you get the idea here where this ABA approach is much more naturalistic and much more connected where you can actually see from the child's own idea getting played out. So this is the one I'm going to talk about in terms of research from our own lab and it might be a better approach for teaching some of these social communication goals. Where DTT might be better for teaching some of the pre-academic tasks. So one I'll talk about is called JASPER. Joint attention symbolic playing' engagement and regulation. It's one of those NDBI. It's very targeted in terms that we're just focused on that social focus impairment. It's modular meaning that it's a pretty comprehensive social communication, a little package that you can add in to any background intervention. Whether that's just early intervention classroom or a child who is getting other ABA approaches. And in short-term, in terms of our research question.

So we're expecting to see change in about a 3-month period of time. So all the time studied are 3 months or 6 months in length. The core concepts then that we work on are joint attention, play, and engagement. And our core strategy are very specific to how we would teach a child to engage in these kinds of behaviors. So we're very concerned about the environmental arrangement which includes the people that are present, as well as the objects and toys. We do a lot of imitation and modeling. You should have seen that in the little pirate video. We develop play routines for children that are flexible and expansive. And we program for joint attention. In other words, we model a lot for joint attention and we will prompt if a child doesn't demonstrate a joint attention and we have very specific language techniques.

So we're not going to narrate for children. We're not going to talk that much. But we're going to be very target to do get more spontaneous language. So, for example, in environmental arrangement we want toy spaces and we want a clear proximity. And beauty with young children, we can start to fill in these developmental gaps. So play is what children do. But we don't actually teach children to play in ways that we expect typical children to play. Which is spontaneous, with their own ideas, with some creativity. We also want to make sure that the therapist or the caregiver is facing the child.

JASPER is a layered intervention. So we're going to create that engagement space with that child. We're going to focus in on play and level of play is where we're going to begin. That's how we create our context. We're going to worry about those joint attention gesture and we're going to try to develop some spontaneous language and we've done a lot of studies now using this approach and what we find is that JASPER will continually demonstrate effects above and beyond what the treatment is. And finding has been replicable whether we thought teachers, therapists or parents and get they an increase in joint engagement, increase in play skills, and increase in joint attention.

And there have been 7 to 9 randomized controlled trials that you can read about if you're interested. The majority of them are, you know, over 50, 60, 70 participants. So where we started with this approach was that we did a therapist mediated study where we were at that point, theoretically we were thinking if we can improve attention skills, we can improve language skill and we knew that from a lot of studies we've done prior to intervention study.

So in this first study, we got randomized children that go 0 hours of applied early intervention program to either about 30 minutes a day of joint attention intervention. Or 30 minutes a day of play intervention. Or they just got the ABA intervention. So everyone was

equated for the dose of intervention they were getting and they were coming off the same program. And our question was, can we even teach these kinds of skills? Because, you know, it's not something that you would typically have to teach most children.

So the question is, can you increase initiation in children? And what we found was, yeah, we can. In fact, if you teach, you can get that response. So time one to time two in this slide is about 6 weeks. So children got about 30 sessions of the joint attention intervention. And then time 3 is 6 months later and time 4 is 12 months later and so what we found was that both the play group and the joint attention group increased in initiation for joint attention. And in the play group also increased in play level.

So, again, the play group increased the most, and then the joint attention group and both of those were significant the different from kids just getting the ABA program. But the important issue here was whether or not we got an increase in language a year later. And, in fact, we did. So expressive language on standardized test was greater for children who got either the joint attention or the play intervention. So about 12 -- well, actually it's 15 to 17 months gained versus about seven and a half gain for the ABA group.

So, you know, pretty significant increases. It also generalized to parents who were not part of the treatment team. Remember, this was therapist mediated. And children and parent in the joint attention group got for affects. And we also had the maintenance over 5 years later where the experimental groups were still predicting to expressive language when the kids were 9 years of age. So we want to do put this altogether. That's how JASPER came about so it's not separate joint attention and play but we put this together. And we did this for parents thinking that we should mediate the intervention through parents for who are just learning. So really, preverbal children.

And at that time, it was for 2-year-olds. So in this parent mediated intervention, we taught it in 3 phases and you can see there are very specific strategies that are taught in each phase. So, again, starting with the environmental arrangement, and helping the child to play within a play routine. Then worrying about the patient and modeling and joint attention, and then phase 3 working about expansion and language. And, of course, we had modules that float around behavioral regulations. So making sure children were really in regulated and ready to learn.

And when we started to do parent mediated intervention, we also started to improve on the sophistication of our research design. So, it's hard to give nothing to parents. So to say to a family, okay, you're going to get the experimental intervention that we think is really effective. Or you're just going to get what you can get in the community. And given 2-year-olds are not given consistent services, that's a problem. So what we wanted to know is whether we could just give you all the information that you need as a parent to deliver an intervention. So this kind of information sharing approach.

And we used an evidence-based early intervention approach that use information sharing. Versus we gave you JASPER which is hands-on coaching. It would be a lot more expensive if we could just share the information. So that outcome child initiated engagement, so, in other words, the child is initiating engagement with the other person and maintaining that so this is a duration measure. What we found with toddlers 2 to 3-year-olds in sample of 86 children that the hands-on coaching is what parents needed to really improve the engagement. And when parents were just given parent education, they couldn't really move that goal with their children. So in this study, we got increase of engagement, play, flexibility, play diversity and play level. And, again, this is 20 sessions over 10 weeks over a 6 months follow-up. What we didn't also

know in terms of parenting stress, we reduced more stress in the information sharing than we did in the JASPER group.

So that's really important to consider and maybe some ways that merging these two intervention would make sense in practice.

In another study of about 112 families across 5 sites across the country and these are all low resource. Parents, so we were going into homes and variety of communities. We get the same affect so, child initiated joint engagement is greater for those with a hands-on coaching than they are when they get parent education. And in this case, it's 24 sessions over 12 weeks and 3 month follow-up. And because these are preschoolers, 2 to 5-year-olds, we get symbolic play and that's important because developmentally, would you not expect symbolic play to improve.

We're happy to get play level to increase in general and place diversity or place flexibility. But with older children, you can expect some of these higher level skills to come in. So there's good evidence of improving core deficit using JASPER and. So these NDBI intervention. So, for example, Ingersoll got improvement in initiation from training. And Wetherby got a an improvement for classed requesting joint attention together.

And, so, the second thing is a single treatment is not effective for all kids and we know this and we need to think about our methodology that can personalize or tailor intervention. Because we want to understand for whom an intervention works and why. And, so, it's unlikely that children need a sequence of treatments. So, in other words, JASPER is not going to work as effectively for all kids. Right? So we might need to think outside the box.

All right, so we also need diverse samples in real world settings, right? A lot of our studies are based on clinic based samples so we need to expand sort of our world view of that. We also tend to exclude subpopulations of kids.

So we only want to see high functions kids. If the child doesn't have language, we might exclude them so, we know less sometimes about kids, particularly kids who are minimally verbal. They have often been excluded. So few years ago, we had an NIH workshop figuring out who were the minimally verbal children. At that time, we called them the non-verbal, but what we learned from the professional groups coming together, most kids are not non-verbal. They have grip or some words. But they're just not using the words functionally or talking very much. We define the number of verbal by function of words spoken. And some kids can speak, but they do so rarely. For example, they might speak at home but not at school. And we don't know what to do oftentimes with children like this.

So, treatment is often just to do more of the same thing. The same thing that's not work more intensified. Or we pull services from children and kind of blame the child for not making progress. So neither of those are probably great solutions. So another way to think about this is how can we sequence treatments where we adapt the treatment based on the child to respond? So we've been engaged in some intervention methodologies called the adaptive intervention design. And what they really do is they system ties good practice. They adapt and intervention based on the child's response. But the problem with clinical practice that can't be translated into the broader, you know, use is that we're not very systematic in doing that. You're an excellent clinician and you know how to do this, but then it's hard to translate to other people.

So these adaptive designs are meant to systematize this clinical expertise. So it's a consequence of decision rules that specify whether how when and based on which measure to alter the dose, that could be the duration, the frequency, or the amount, and the type of delivery of treatment at very specific decision stages that's there. And what we do at UCLA are smart

designs which are sequential multiple assignment randomized trial. Which just means that you're going to have more than two or more randomization during the course of a sequence of treatment.

So we did a pilot study with 61 children age 5 to 8 years of age. We thought that was the window that we could expect children to actually have spoken language have they weren't speak much by the time they were 5. So these are 20 functional words. So this had early intervention, so this wasn't a question of exposure to intervention and we decided we weren't going to give them that wasn't going to work.

We thought they could all benefit from JASPER, which they probably have not had, as well as a very targeted behavioral spoken language intervention called enhancement treatment. And the question in the study was what happens if we give all children this intervention we think will help them? But half of them get an augmentative device as well. Because in the community, there's some controversy about whether you give somebody a speech generating device and if that's going to help them talk or inhibit them from talking. So in this design, this is SMART. Children got the JASPER augmentative device. And after 24 sessions, we determined if they were fast responders or slow responders.

They were responders, they just stayed the course. But about it they were slow responders and they didn't get the augmented device, we randomized them again. Either get the device or give them another third session a week to intensify. We just intensified we didn't want to take it away. So the question here is does it matter where we start? You know, can you add in that device at any point in time and that helps the child? Or does it not help the child ever?

So those were our questions and what we found was that, in fact, by giving the children the device, those children bumped up their spoken words, spoken language much faster than kids who didn't have the device. So the red line on the bottom are kids who didn't have the device and they're making slow and steady progress. And the kids on the top got the device and just jumped up and you see them at 12 weeks, 24 weeks, between 12 and 24 weeks, we also backed the parents in the treatment and 36 weeks, and, so, 24 and 36, there's a follow-up phase and kids who got device also had more novel words and they made more comments. So joint attention language.

And, so, to give you a sense of this, I'm going to show you a little guy that was five and a half. He had absolutely no words. And really didn't talk at all. You'll see the first session where we also don't talk very much, because we're trying to see what you can do. And he got the DynaVox, the speech generating device and you'll see him at the 3 month point.

[Video Clip]

>> TEACHER: Want? Let? Do you want both? Both on. Both.

>> BOY SPEAKING: [Making sound]

>> TEACHER: Green. Sorry, no green. Color is blue. Do you want a blue? Okay.

Both. Drive.

>> CONNIE KASARI: All right. So you can see that just by modeling on the device, and this little guy is initiating his own comments. He's also trying or, you know, attempting words. So when he left, he actually had some words. He still uses his device, but he can actually use spoken language now. This is what a voice sounds like, however, when you haven't used it for about 5 years. So a little squeaky. But what this little guy needed was an access to communication. So this was critical. And remember the little boy who cried because he didn't enjoy the playing? So now we have a toy that didn't have a clear finish, so we now have the

ABA to know when he's done, and we wanted him to play and we brought an iPad with speech generating software on it so we can see what happened with him. Remember he's just turning 3.

[Video Clip]

>> TEACHER: People.

>> CONNIE KASARI: What a difference a day makes, right? So here's a little guy that needed also access to communication. He's already using 2 buttons. Clearly smart. He's completely regulated because now he can communicate about something and he can play with something that doesn't have some clearly defined. And this is him a few weeks later where we upped the ante so we're making him use words more. Remember, he had zero words. Still really don't have words at day two. But here he is.

[Video Clip]

>> TEACHER: Blue block. Brown. Brown on brown. Brown on.

>> BOY SPEAKING: On.

>> CONNIE KASARI: There he is attempting words, and now he's 5 and he can speak in short phrases. he still uses his iPad to regulate. So what an amazing child. So I want to talk about a huge research to practice GAP and this is something we have to talk about. And we've tried two studies where we tried to deploy JASPER into the early childhood program. One was in New York with toddlers in an ABA program had one-on-one assistant from the community. So it was a low resourced area in New York and we trained a train to trainer model where they had the assistance training the children teaching the JASPER.

And we compared that in a wait a second less design to their usually socialization program which is an half hour of this gains and engagement with the children to see what we could get given if we applied JASPER. And in another one, in Los Angeles, where we worked within preschool rotation of center, so here is a small group using JASPER strategies with children.

Both of those papers are published if you want to read about them. But these are the New York data. And, so, you find that the paraprofessional using JASPER got a larger percentage of time with children in joint engagement than with in the other groups socialization and the weightless group. And entry to exit, we got more high level non-verbal gesture. So showing and pointing in the JASPER group than we did in the weightless group. And and the best is we got a change in language.

Children using one or two or three words or phrases. The percentage of children using language was over about 65% in our JASPER group compared to about 25% in our waitlist group and these are two-year-olds coming in and not really talking. All right. So to conclude, we know some things now. We know we can chair core impairments and improve meaningful outcomes for children with autism. It matters that we teach other people. That we teach parents, teachers, we can even teacher peers in the context of early child childhood. And we have evidence of early generation and evidence of longer outcome.

And there's still a lot of needs we need to address. We still need to understand what the active ingredients of the interventions are. So we need to think about dismantling the different components of study to figure out what really works. So if we don't have very much time and we're working in communities that are distant or very low resource, we need to know exact what we need to teach so we don't waste people's time. So we needs to understand treatment and the way we're doing that is through adaptive design. And thinking about the intervention when it's needed. Not everyone needs the same level of intervention.

And then we need to think about disseminating effective intervention into the community. And the type of design we use, the hybrid implementation model. We're concerned about teaching others and making sure that they implement something at some level at good fidelity. And we want to get good outcomes with children. So that's why the hybrid. So thank you very much. I think we'll have plenty of time for questions.

>> ANNA COSTALAS: Great. Thank you so much. So, what I'm going to do is open up the lines for our folks that have questions for this fantastic presentation. You can press, if you're on the phone, you can press star pound. If you are using your microphone on the computer, you can just raise your hand. Sorry, there's a little feedback. And I'll just give it a couple of seconds. And you can also ask your questions in the chat box and I'm happy to read them to Dr. Kasari.

>> CONNIE KASARI: I'm giving you lots of time for questions, because I figure, usually I can see the questions. But I can't in this case. So.

>> ANNA COSTALAS: All right. No problem. I will read them to you. But there's couple of folks typing right now.

>> CONNIE KASARI: [Chuckles].

>> ANNA COSTALAS: One isn't for you, but, oh, sorry, this is for you. Is there regarding the training for JASPER techniques, do you offer that?

>> CONNIE KASARI: We do. We're doing one right now as we speak. Yeah, we do. On a very systematic basis, but I would say 3 times a year. And we have a manual that's due to the publisher. So I suppose when that is published, we have to be more systematic about doing that. I would say most of our training is in the community. So we train parents, teachers and sometimes professionals as we are right now.

>> ANNA COSTALAS: And the question is how to obtain JASPER manual. You said it's to the publishers? Also it's not ready yet?

>> CONNIE KASARI: It's not ready yet. It will come out one of these days. So I think if you're interested, you can email us. You can email the lab and we can let you know.

>> ANNA COSTALAS: Great. There's still folks typing, so I'm going to give them a second. The graduate student said CSD at the University of Hawaii would implement JASPER at our clinic. Can you come to Hawaii?

>> CONNIE KASARI: Certainly, I'm sure I can go to Hawaii. [Laughter] Yeah. You know, you always know that's beautiful. Right? We have trained a lot of people across the country. So there are two provinces in Canada that are actively using JASPER. So Newfoundland, the whole province use JASPER with kids mostly in home-based interventions.

We've trained people in a lot of low middle-income countries. So Vietnam, Macedonia, Serbia, and some others. And we have -- you know, we'll send people out for training if people are interested. You know, sure. I mean, it works nice in a clinic setting, I think, because you want to have something pretty structured, systematic and focused if you can't do -- if people can't access, you know, some kind of early intervention system. Right? So if services are very inconsistent, at least this is something that you can give families to use.

>> ANNA COSTALAS: Great. Well we have another question. Most of the studies about the disseminating into the community seem to be in context of preschools. Where there's a lot of one-on-one context. Do you see techniques being effective in a more traditional early intervention program where children's seek providers once a week for 35 minutes?

>> CONNIE KASARI: So it's a question that you only get one session a week period? That that's all the child is getting in terms of services? Like one 30 minute? Okay. Yeah,

JASPER, we deliver JASPER in a 30 minute session. I think you would get something out of that. You know, the question is always what should be the dose of intervention for a child? But if, in fact, that's all they have, then I would work through the parents so they can deliver the intervention, you know, at a larger dose. That would make perfect sense and these are the kinds of skills that we teach that are within normal interactions, right? So paying attention to the kinds of things that we should be paying attention to for children with autism. I think that's possible. We certainly have that in some of our low middle-income countries.

>> ANNA COSTALAS: Would the program be used in an augmented device?

>> CONNIE KASARI: Would the program -- what do you mean?

>> ANNA COSTALAS: I'm trying to get a little more. Tina, if you can clarify? She's typing. She'll get back to us. What is the cost of training? If there is a cost?

>> CONNIE KASARI: Ha-ha, umm, well, so mostly, we have haven't really charged. So when we send people out, it's about \$500 today. So it's an 8 to 6 -- or 8 -- let's see about 8 to 5:00 p.m. day. And we do it 5 days a week. So it's pretty intense. We would have you practice with at least 3 kids.

>> ANNA COSTALAS: So what would be the best way to go about using the strategy since the manual is not out yet. To follow-up on the question.

>> CONNIE KASARI: If you come to training and we'll give you handout and all the information. I think that's the best way to do that. Even when the manual comes out, I think what people find in any of those complex interventions is that you're going to have to be trained anyway. The manual, the problem with manuals, right? Is that you read them and you cannot figure out what it is you're supposed to do. So you're still going to need some training. Yeah, I don't care what kind of manual, it seems like it's hard to get a sense of what to do unless you also do some on-site training. But, you know, autism is complicated. And, so, we don't want to have something that's so simple, because it's likely it will not work. It will work with one kid but maybe not the next kid.

So you really have to understand what it is that you're trying to accomplish in the intervention. So we find that a solid week of training, you kind of have the basics and the concepts of what this intervention is about, how it might be similar or different from other interventions, but then you need to practice. And it does, because we're not -- we're pretty systematic and structured. But we're not adult driven. So in other words, we're not controlling the situation. We're really thinking about the kid and their development and how to use that to teach the child certain kinds of skills. I know that sounds vague. It's one of those things you kind of have to see in action. Because if you watch those videotapes, because it looks like they're playing and having fun. But actually, the therapist is really thinking hard about every step and every next step. Right? She has a clear agenda for what she's going for. Does that make sense?

>> ANNA COSTALAS: Yeah. Great. What program is used on the augmented device? There was a clarification on that question.

>> CONNIE KASARI: Good question. So the one that we use in our research program was Proloquo to go. But there are others. There's nothing that special about that one. It's just well packaged. But it's expensive. So when I go to low middle-income countries or I work with families that can't afford the cost of \$250 or whatever it is for that software, there's something called sounding board. It's a free download. And especially for different languages, you just do a voice-over. You can take actual pictures or use icons and you can do a voice-over. So those are two that we've used. There will be others out there. And it seems like every week, there's a

new one. So the main thing is that you've got some kind of picture or icon, and you've got the word associated with it. So when you press the button, it says the word.

>> ANNA COSTALAS: Great. How do you start the process if a child struggles with the most basic engagement?

>> CONNIE KASARI: Say that again? How do I start?

>> ANNA COSTALAS: Start the process correct?

>> CONNIE KASARI: If they aren't engaged at all?

>> ANNA COSTALAS: Correct.

>> CONNIE KASARI: First thing you're going to think about is your environment.

Right? So if the child wandering, you want to make sure the child is seated and you want to make sure the child is regulated and actually focused engaging with the person. So that's the first thing to do. We would also do assessment of both social communication and play skill. Because we want to know exactly where this child is developmentally. So what they have mastered and where they're emerging and then our toy selection is based on that developmental level. So if a child, so let's say a child is 3 years old. And, yeah, they should be playing symbolically. But symbolically, they might be at a low level of play.

So combination play, they might only be able to do a puzzle. They may only be able to stack objects and so we're going to actually break that down. So presentation combination is puzzle and that's the lowest level of combination play. The next level is just combining objects, so stacking things. And then there's other levels within combination play. All of that becomes very important to us. So we're going to know exactly where that child is developmentally and that's where we're going to start. And we're going to build kind of a routine from that.

>> ANNA COSTALAS: Great. So the next question is, what type of professional background do you recommend to seek out this training? SLPO only CBA?

>> CONNIE KASARI: Well, I've trained a lot of non-profession and caregiver professionals and parents. I think anyone motivated can learn to do this. And I think sometimes we have to be careful about those who are too highly trained with clear biases about interventions. Sometimes it's harder to, like, be open-minded, right? So anyone who is open-minded can be an OT, PT, SLP, could be a DSCBA. It doesn't have to be. It could be a teacher. So in terms of learning JASPER, it's nice to bring a team of people working together because then you can support each other.

>> ANNA COSTALAS: Awesome. The other question is will this program be applicable to teenage kids with ASD with minimal communication skills?

>> CONNIE KASARI: Some aspects of it, yes. So, some of the concepts of trying to engage somebody around something of interest. Am I going to use toys with a 17-year-old? Probably not. But I'm going to think about where his or her interests are and how I can build that engagement around something that's shared. Right? Because that's we need to do in order -- we need to have that engagement in order to teach communication. Otherwise, all we're doing is teaching them how to request help, or request for something. Requesting only goes so far. So we're really interested in getting kids to comment and to engage, and to communicate. So our focus has all been around that. The requesting, we can get pretty easily. But going beyond that can be hard. So, again, finding those interest of an older individual would be really important. But then giving them access to speech generation, yeah. That's really important.

>> ANNA COSTALAS: So PEC versus speech generating devices?

>> CONNIE KASARI: Say that again?

>> ANNA COSTALAS: She's asking the difference PEC versus speech generating devices?

>> CONNIE KASARI: PEC, is that what she means?

>> ANNA COSTALAS: I apologize. PECS verse speech generating device. That's all I have. She's writing a little more.

>> CONNIE KASARI: Oh. yeah, DDT use the picture change approach. So we use some of that. Even on the iPad. And that program, the data aren't very robust for PECS actually translating to spoken language or joint attention or joint attention language. So for me, the speech generating device is much more efficient and more motivating to kids. It delivers the words in exactly the same way. It involves the motor component. There's a lot of aspects to this, and any one of those could be beneficial to a kid. So we tend to do that. And we tend to model, again, we don't prompt kids so much on it unless we have to. But you get pretty far with just modeling. So I just don't think PECS has the data.

>> ANNA COSTALAS: Great. I'm going to give everybody couple of more seconds to see if they have questions. Otherwise, I'm going to close down and get you back to your day then.

Well, just that -- it's submitting our question and answer time. I would like to thank Dr. Kasari for an awesome presentation. I like to thank everyone for attending today. This webinar is recorded and will be available on AUCD website probably by end of the week. If you like to have any information about EIEC, please feel free to contact either me or Dr. Marybeth, and when this closes out, please take a moment to film that out. Thank you again. And have a great rest of your Tuesday!

>> CONNIE KASARI: That you will, all! Bye-bye.