

ASHA 2007 Transcript  
Visual Immersion Program (VIP): A Communication Program for Persons with Autism

Slide 1: Title Slide  
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Slide 2:

We want to thank you for coming to our session. My name is Howard Shane and I'm doing this program with Meghan O'Brien who is to my left and Dr. James Sorce who is sitting here as well. Meghan and I will do most of the speaking but Jim made considerable contributions as did so many others. In your ASHA information sheet, when we first submitted this proposal last spring we were continuing to develop our proposal. At the time we refer to it as Say it with Pictures and has evolved into Visual Immersion Program or the VIP. And it's a program that is growing out the work we're doing in the Autism language program at Children's Hospital in Boston.

Slide 3:

Part of our work is sponsored by the RERC on communication enhancement. That's the virtual RERC with a number of other centers and individuals in our field. And we think there is a lot of really great work going on in the RERC and we certainly want to point out the sponsorship for this lecture.

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While the three of us have certainly contributed to this undertaking, there are a number of others who have made valuable contributions as well. Especially, the children and the parents who graciously bring their children to us and give us the opportunity to try and help them out. But, we learn so much from them. We have some outreach programs in the Boston schools called the Model Autism Program. There is also a program at the Monarch School in Cleveland, Ohio. And a number of individuals, including Marie Duggan, who happens to be here today as well who contributes so much to our center.

Slide 5:

What we want to do today is overview the VIP, knowing the VIP is a comprehensive program that is intended to enhance language both as a expressive and receptive opportunity. We're convinced that the importance of comprehension is sometimes overlooked by programs intended to teach individuals on the Autism Spectrum. In other words, their focus is often on expression and we actually think it ought to be reversed. I'm going to review some of the key components of the VIP, and then we'll describe teaching concepts that we know are difficult for individuals with moderate to severe Autism to learn. And then we'll show you how we approach this using this approach. We will show you a number of clinical examples as well, where you will have an opportunity

to see different children and adolescents reacting or responding to the principles that we'll be describing before we show you the actual videos.

Slide 6:

The goal of the VIP is to use visual supports in everyday situations to teach communication not just in the therapy room, not just in the classroom, but in every situation. There some key ingredients I want to point out, that again keep in mind, it's important too see that it impacts both comprehension and expression. We see it as a closed language system, in that it has restrictive pragmatics, and we're going to target some basic communicative operations which I'll review. Both the instructor, who we sometimes refer to as 'mentor', and the learners exposed to our program will use the same visuals to communicate to one another. It is a combination—but we're targeting comprehension. Also, we believe based on some survey work that we have reported on in the past and are continuing to explore. Something you may already know, that persons on the Autism spectrum have a strong attraction to electronic screen media. In our survey, for example, we found that video, DVD, computer screens were in some cases the most important form of entertainment. Sometimes more time was spent watching electronic media than all other forms of media combined. And we have been convinced for some time that if a person spends that much time looking at a computer screen or looking at a video – that there must be something inherent in that material that we want to take advantage of—and that we can then use to encourage that person not to just be entertained but also to learn. In other words, to improve those language concepts that eludes us so often by using electronic media.

Slide 7:

So what is visual immersion? We're talking about an environment where it's a responsive environment that takes advantage of the visual supports we know are so useful. We didn't invent visual supports. People like you—professionals—teachers, speech language pathologists have come to the realization that visual schedules, visuals for communication make a significant difference. But also the environment can be responsive so we want to establish and create an environment that enables the person to benefit from the visuals to improve their ability to understand what's going on around them. It needs to be done in the home, school, and in the community. We don't have all the answers. We're just getting better at trying to make it a universally applied instructional format. We want the person on the spectrum to have easy access not only to the electronic media but also to non electronic forms of expression, comprehension, and just understanding and helping with those transitions.

Slide 8:

I mentioned earlier that we have isolated seven communicative operations. Protesting and refusal-- we don't need to teach many children how to protest. We do want to teach them to use more symbolic means of doing that. And requesting—we'll certainly see some demonstration examples of that. That's certainly and important part of the PECS program

which everybody knows about. You're going to see us using the TLC. The TLC within the VIP is to give directive and also to be able to comment. As we move along we have strategies for questions, social conventions, and also for transitions. One of our focuses will be on the comments and also the directives.

Slide 9:

What the VIP is not. It is not meant to teach abstract concepts, with liberty and justice for all for example. Or the passive voice, complex syntactic structures, figurative language, or humor. However, we feel that being able to better understand spoken language or language that is being transmitted, visually or spoken, sets the stage or creates a way of being able to learn and essentially launch the ability to benefit from these more complex functions.

Slide 10:

We all know this. I know my mom used to say don't comment on the obvious. I might have spent my whole life doing that. But, as practicing speech and language pathologists we learned what we do needs to be generalized to the natural environment—in helping with daily routines, operational knowledge. It's amazing sometimes how well individuals on the spectrum understand what happening around them, what's happening in their environment. They know how to operate their VCR, know how to make lunch, they know how everything in the house operates. And they've learned all of this through observation. And it's a visual opportunity. But, when we begin to impose language on them-- that's when they sometimes breakdown and that's why their operational understanding is considerable. We also want to be able to use our information in a preferred play routine. As a practicing speech language pathologist we also do many things on the tabletop and you'll see some of the instruction on the tabletop. But also there's the virtual setting—using the electronic media to help them understand. So again, it's not just entertainment it's more edu-tainment. Using something that attracts them for reasons we don't always understand. It is a tremendous magnet. It pulls them in. So of course we're saying what can we do to make this an opportunity to learn or to improve the opportunity? This is what I mean: we all do work in the natural environment; we all do work on the tabletop and now maybe the addition is to the virtual setting. Some children do better when they are exposed to things on a tabletop some do better when it's presented to them in a virtual way. So when you personalize it—it has to depend on the individual.

Slide 11:

Here's an example of a natural school setting. There's Mike with his teacher. And they're using something we call a Mobile Language Display or MLD. (Which is basically Velcro adherence for activities in the classroom.) Mike is being given instruction. Some people refer to it as aided language or augmented input. And we're giving him information to be able to improve is ability to understand that particular routine.

Slide 12:

You're going to meet the ALP family—that's capital A, capital L, capital P. These are materials we've been creating that gives us the ability to demonstrate to families that come to see us at Children's Hospital ways of teaching some of these language concepts and also giving them so they have some materials that they can take away. We'll get to those in a moment. There's a family and there's some other objects that are readily available and that are used in doing some of these tabletop activities.

Slide 13:

Here's an example of a virtual setting. Some examples here from something called The Great Action Adventure. You're probably, or many of you are, already aware of this but here we're demonstrating the concept of climbing.

Slide 14:

Some of you know the Mayer-Johnson symbols, again to demonstrate climbing. Again the action there's something interesting about it but it also captures the essence of what we're trying to communicate.

Slide 15:

Here we have a homemade video and here's Kara doing some climbing. She's also going to be a great actress.

Slide 16:

Here we have an example of an extremely popular character, and as we all know video is important. If we can just capture those concepts which are so elusive by being able to get to video content then we can also demonstrate the concept of climbing. So if we take advantage of that opportunity to teach children that represents the concept we think this is an important way to get this idea across. That's what we're going to demonstrate in the TLC. How can that type of dynamic scene do something that is so interesting and then apply it to more generic language?

Slide 17:

Just quickly, communication should be easy. What do I mean? I mean that if we want to make the distinction between just making a communicative statement where a child says something, asks something, and we accept it and move on. We want to be able to do that in an easy way. We want to separate that from language arts where we are focused on teaching specific language concepts. Every communicative situation, every time a child communicates it shouldn't be necessarily an opportunity to expand their language, to make it more than what it was intended to be. Not that I'm suggesting that we don't want

to do that, but let's at least understand that we want to draw that distinction. Make communication easy. And at times it certainly makes sense to be able to introduce a teaching opportunity.

Slide 18:

Now as for visual supports. Most language instruction programs working with people on the Autism spectrum do use visual supports. We recognize that. We honor that.

Slide 19:

Why are visuals needed? Because of comprehension or auditory processing problems that people with severe or moderate to severe Autism experience and we have data to support that. They respond favorably to visual supports. Now you know, you can't always separate comprehension from auditory processing. Use of the visual is an alternative modality. And again you're taking advantage of their relative strength. We like to use the term sustained presence. There's something about having the visual continue to appear that gives the person, let's say the person with an auditory processing impairment, the ability to then process or to understand what is being presented because of the sustained presence. Maybe that's one reason why visuals are so important—it is that sustained presence. Several surveys have demonstrated or shown that an estimated 50% of people on the Autism Spectrum are non-speaking. We as the profession, as professionals, have made augmentative communication as important as it is. So the work we're doing with persons with Autism is really the work of the individual working in AAC.

Slide 20:

Symbol representations.

Slide 21:

Here we're going to talk about level of representation.

Slide 22:

We know about these kinds of materials. We call these 3D photos. And we find that for some individuals we have to capture the level at which they're understanding these materials. And what we may not have used before are these 3D photos. What we do is we cut out the photo and cut out the background. Then we mount it on foam board or cardboard to give it a more three dimensional look. Quite often it makes the difference in some individuals being able to understand what the material is really trying to represent. We know photographs sometimes work. Sometimes line drawings work and sometimes color photo works. But, for some individuals 3D photo makes a significant difference.

Slide 23:

Types of representations.

Slide 24:

We use what we call scene cues, element cues, and manual signs and gestures. We're going to focus on scene and element cues in this discussion today.

Slide 25:

A scene cue is a perceptual representation and it's a symbol which illustrates and entire event. It captures the essence of what you what the individuals to do. Just hold that thought and we'll show you some examples. It captures the essence of what is expected. And there are two types of scene cues. They can be dynamic or they can be static.

Slide 26:

This is an example of a dynamic scene cue. And this is using some materials that come from our ALP family. This is Mr. ALP's car.

Slide 27:

Video: "The car pushes the block."

Shane 28:

In the video 'the car pushes the block.' We also try to have the materials act in ways they normally wouldn't act. So you give a child a car and a little figurine the child is going to put the figurine in the car. But we want to expand on that. So it's really not based on routine and expectation. It's based on the actual language of what is being shown. So in this case you heard it but you also saw it.

Slide 29:

Now here's an example of a static scene cue. So in the ALP program you can use these dynamic scenes but you can also use static scenes where there are quite a few graphics, which are printable. You can switch between the dynamic and static as well.

Slide 30:

And then there are elements. Those of you familiar with the Folk's sentence builder, an old language teaching program, which is kind of based on semantic relations. We'll see the relationship between those programs and what we're trying to do here. We've borrowed heavily from that idea. But the idea is that agents, actions, and objects are taught. This is the hard stuff—the spatial representations, attributes, and action verbs. Persons on the spectrum tend to do very well with nouns—it's when you get to the more relational or connectors of language that's when we start to see breakdown.

Slide 31:

Here are some examples of element cues-- agents, actions, and objects. These are all included in your handout.

Slide 32:

If we're doing elements, but this time representing them with text. Obviously, you would use whole words and that's what you see here.

Slide 33:

Symbolate is an interesting concept. Symbolate is the concept of stringing concepts together through a series of isolated symbols. Many of you in your role of speech language pathologists don't always know what this says. But, we believe that it doesn't actually improve comprehension just because you string symbols together and throw visuals at somebody. They need to have some prior knowledge of language elements and semantic relations in order to benefit even if you are going to use them as complex a sentence as what you see here. We believe, paradoxically, while you're trying to improve comprehension the introduction of this kind of string of symbols could in fact impair comprehension or get in the way of comprehension.

Slide 34:

Types of displays.

Slide 35:

A visual scene display here with the concept of hot spots. There's been a lot of work in the RERC. In a paper that came out in Augmentative Communication News, Sarah Blackstone's newsletter, which was the result of a lot of thinking. We all know about grid displays. When I say grids I mean the traditional communication display. The grid where you put symbols within targets. The visual scene is a growing phenomenon, if you will, within our profession. We're using whole scenes as a way of communicating or describing information where there are hot spots. And so you touch something, within a scene something happens.

Slide 36:

Here's an example of a program where developed in the mid-90's called Companion. The idea here is that there's this village and I have hot spots. I click on the house and it takes me to another representation and when I click on bed it takes me to the bedroom. I can navigate down. There's some work done by Janice Light that this kind of representation may be more meaningful to individuals than decontextualizing information that's

presented in a grid. It's something to think about—especially for younger children, and that's what Janice Light's research has demonstrated. It seems to be more intuitive and more understandable.

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Slide 38:  
(no audio)

Slide 39:

Here's another way to create a visual scene. Rather than take a photograph of a box of macaroni and putting it into a target area. Take a picture like this of an entire pantry and you have the important food items already made for you.

Slide 40:

Here's a typical example of grids.

Slide 41:

These are grids arranged by category. They are obviously about food.

Slide 42:

Here's a conversational grid display with subjects, and verbs, and so forth. We're going to see more of that later.

Slide 43:

Here's an example of a Mobile Language Display. Here's Mike working with his teacher. And I'm going to set this up. So he's going to say what he wants to do and he's going to go to a ring toss activity where he has to put a particular color ring into a particular bin so there's a number on it. And if you watch Mike who's doing very well with language comprehension, when he has these visual supports, you'll see him continuously referring back to the visual because it's giving him the information he needs to keep going. Craig, his teacher, is using a mobile language display to get him oriented and keep him focused on the task. So, that we're successful when we're having this interaction.

Slide 44:

Video –Mike

Craig: What's first?

Mike: (unintelligible)

Craig: Are you ready?

Mike: Ready.



Craig: Let's go.

Craig: Mike, look at box 3. Mike, throw red in box 3.

Slide 45:

Our teaching language concepts program is essentially a visual instruction system used for teaching language concepts which are particularly challenging for people with moderate to severe Autism including verbs, prepositions and attributes. It is a confined visual language which simply means that it is limited to the essential vocabulary and syntax needed to support everyday functional communication exchanges. Most typically instruction is going to begin in the virtual environment, using engaging video observational learning materials. And then instruction progresses to the tabletop environment, using manipulative materials, and finally extends to the natural environment. Hopefully, ultimately resulting in functional communication at home, the school, and community.

Slide 46:

In our teaching language concepts program the learner is going to progress through all or some of the three phases of visual language instruction. Beginning with the most concrete and ending with the most abstract representations. Depending on the learner's needs and abilities instruction can begin at any of these levels. We typically begin at the dynamic scene cue level, these are full-motion video clips of action scenes. Then we progress to static scene cues, which are photographs that capture a prototypical moment in the action scene. Finally we would end with language element cues, which are graphic icons representing each of the individual parts of speech like subject, object, verb, preposition, adjective, etc. In our program we are using a unique integration of video based observational learning with scene and element cues to promote language comprehension and expression.

Slide 47:

I'm going to show you some different examples of these dynamic scene cues and remind you of what they are. This is an example of a dynamic scene cue representing the concept, climb. You'll see Kermit climbing the ladder in a video.

Slide 48:

Video: Climb. Kermit climbs ladder. Climb

Slide 49:

A lot of the individuals we're working with have spent some time working with this dynamic scene foundation. We present them with the identical materials on the tabletop, and they would be presented with the video clip, and would be required to reenact what they see happening on the screen.

Slide 50:

Then we're going to progress to the static scene cue, which again are these photographs representing the prototypical moment in an action scene. So this photograph represents Kermit climbs the ladder and the learner would be expected to report the meaning in the photograph.

Slide 51:

Finally, we progress to the element cues which represent the different components within the sentence—Kermit climbs ladder. Again we're focusing here on this concept of climb which is challenging for some persons with Autism.

Slide 52:

Now I think it's most appropriate to show you how we implement the materials with our learners using video examples. I'll begin with dynamic scene cues. This is Ryan- he is nine years ten months old and he has Autism. In terms of his language comprehension he is primarily following routine based directions and responding to context rather than spoken language. Expressively he is using speech primarily for requesting and he frequently exhibits scripted language. In this video you'll see him presented with complex multi-element sentences and he won't execute the directives. Then he's presented with a dynamic scene cue and you'll notice he reacts to the scene and immediately reenacts the scene that he's observing. He does have some obsessive compulsive behaviors so he matches the little objects exactly to what he is seeing in the video. This is Ryan.

Slide 53:

Video Ryan

Howard: Ryan, I want you to have Kermit push the girl in the wheelchair.

Ryan: Push girl.

Howard: Have Kermit push the girl in the wheelchair. Ryan, Ryan, look.

\*video: Kermit pushes girl in wheelchair. Push. Kermit pushes girl in wheelchair. Push. Push. Kermit pushes girl in wheelchair. Push. Push. Kermit pushes girl in wheelchair. Push.

Howard: Ryan, have the girl push the dog in the wheelchair. Ryan, have the girl push the dog in the wheelchair. Ryan, look.

Video: Push. Girl pushes dog in wheelchair. Push. Push. Girl pushes dog in wheelchair. Push.

Slide 54:

I now want to show you an example of someone who is using static scene cues—once again those photographs representing a concrete concept. This is Avery, he is ten years nine months old. In terms of his language comprehension he follows contextual single step routine based commands. He is communicating about ten spoken word approximations. He's been introduced to the Picture Exchange Communication System for requesting. In this video you'll see him presented with static scene based cues and he'll recreate each. You'll notice that a lot of the cues he's presented with represent an action so he's inferring the movement from the photograph. In one of the examples he actually goes to seek out information from the visual scene. So the spoken directive is presented and he looks to find where the visual information is to support his comprehension of the spoken directive.

Slide 55:

Video: Avery

Howard: Have Kermit push the fire truck. Here. Have Kermit push the fire truck. Yeah there you go.

Howard: Can you put the bed on top of the bowl? Can you put the bed on top of the bowl? Put the bed on the bowl. Avery, good, put the bed on the bowl. Can you put the bed in the bowl? Can you put the bed in the bowl. Put bed in the bowl. There you go. Can you put the dog on the bowl? On—cheating. Put the dog on the bowl. Put the dog on the bowl.

Slide 56:

We typically spend quite a bit of time with learners on the dynamic or the static level.

Next I wanted to show you how we would transition between dynamic, which is the most concrete representation of the event, to the static level, which is that photographic representation. So this is Emaan who is five years ten months old and she is able to imitate dynamic scene cues—she's great at that. So we're working on getting her to understand how to infer meaning from static scene cues. How you infer push—when the object is actually pushing and not just leaning as it appears in the photograph. In this clip you'll see her using a static scene cue successfully, then she'll be presented with another static scene cue and won't quite understand the concept. So, we go back to the dynamic to support her understanding of the task, and then we model the association between the visuals to get her to understand that the static is a representation of the dynamic.

Slide 57:

Video: Emaan

Meghan: Can you make the boy stand on the ball? Kicking the ball. Make the boy stand on the ball. Good job!

Emaan: A ball! He's standing on the ball!

Meghan: You ready? You ready? Can you put the man behind the cup?

Emaan: A cup!

Meghan: You want a cup? Can you put the man behind the cup? Put him in the cup. Put him behind the cup. On the cup. Let me show you. Let's see where is he? Here he is. The man is behind the cup. Good girl!

Slide 58:

So immediately she understands the dynamic scene cue and then we model the association between the static and the dynamic. Unfortunately that wasn't captured in that video clip.

Slide 59:

Next is Neal who is five years eight months old and you'll first see him using scene cues to follow directions like you've seen in previous clips. Then he'll be presented with an array of scene cues and an action will be performed at the tabletop. He'll be required to match the scene cue to the action he sees being performed.

Slide 60:

Video: Neal

Howard: Can you have Woody push the car? You do it. Woody. You do it. Good boy! Okay now Neal. Neal. Here we go. Here's Woody, and there's Gumby, and there's Batman. Now tell me, Neal tell me. Neal, look it. Who's pushing? Tell me. Tell me. Good boy. That's right. That's Batman pushing the car. Okay Neal, look it. Neal look. Neal. Tell me. Tell me. Who's pushing the car? Good boy. Woody's pushing the car. Okay one more. One more. Push. Who's doing the pushing? Who's doing it now? Neal, who's pushing the car? Give me the picture. That's right Gumby's pushing the car.

Howard: Tell me something, Neal. You do it mommy. Look Neal, this is Batman. You do it mommy have him climb. Neal, which one. Which one. Neal look it. Who's climbing? Who's climbing? Show me. Who's climbing. That's right batman is climbing. That's right. Neal, can you tell me? Which one? Which one? Look at mommy? Who's climbing? Show me. Who's climbing? That's right Batman is climbing. Good boy! Now Neal can you tell me which one. Which one? Which one? Look at mommy. Look it Neal. Who's

climbing? That's right Woody. Woody's what—tell me the sentence. Woody. Yeah climbing. Alright. Do you want to take a break? Let's take a break.

Slide 61:

Next, is a clip of Courtney who is communicating primarily using single word utterances. So this element cues task is presented to promote the ability to communicate lengthier utterances and using more various parts of speech to describe. He's presented with an element cues task for comprehension and now is required to describe an action using these element cues.

Slide 62:

Video: Courtney

Howard: What's this? Gumby. In the what? Which picture. In the what? Put it right here. Tell me the whole thing. Tell me. That's correct. Now. What about now. Tell me now. Fix the sentence. Gumby. Put it over here. Now tell me the sentence. That's right. Gumby's in the bed. That's great. Now, tell me something now. You know what this says. Push. Now watch. Ready, watch. What's happening there? How do we move the sentence? Put it right here. Gumby what. Gumby what. Gumby push. Which one. Put it over there. Tell me the whole sentence now. That's right. Nice job. Now tell me. Move it. Where does it belong? That's right. Nice job! Ready? Tell me what's going on here? Go ahead. Yea, mmhmm. Alright, you've got batman and you have ladder, what else? What's he doing? He's climbing. Look over here. Which one's climbing? Now tell me the whole sentence. Tell me. That's right. Smile on his face—you know he's got it figured out. Now tell me here. Fix it. That's right now tell me the whole sentence. Yea, that's right. What about now? What's going on here? His name is Woody. That's right. That's right. Now we can be generative—using the whole scenes they're not generative. But now we can. What's going on here. Push that's right. Tell me the whole sentence. Woody, yea. Use your pictures. Say it with pictures. Push. Which one is it? Put it where it belongs. Put it where it belongs. There that's it. Tell me the sentence—tell me what's going on. Yea that's right. Woody is pushing the truck. What's going on here? What about batman? That's right batman's pushing the car. Look here. Tell me. What do we got? Batman. That's right block. Batman is on the block. Okay.

Slide 63:

Next, we have Peter who is presented with a very similar task. He's been successful with the same task as Courtney which you saw in the previous clip using the picture based element cues. Peter is currently working towards using the text based element cues to describe as you'll see in the clip.

Slide 64:

Video: Peter

Howard: Ready, what's happening? Okay tell me with the words. Go ahead tell me what you were starting to do. Put it up here. Woody, yeah yeah right. So tell me. Woody. That's good, that's really very good. Hey, what's going on here? Tell me. Put them all back. Now tell me. Gumby, yea. Very good, thank you so much. Okay very good.

Slide 65:

The next thing we're going to discuss is how to get an individual from the scene cue level to the element cue level. Just like Emaan's clip transitioning from the dynamic to the static what we do is present the most abstract type of representation which would be the element cues and fade back to the static cues as needed. Regan is eighteen years old, and is responding to routine based familiar directions, he communicates using speech, and frequently exhibits echolalia. He communicates a lot physically using gestures to indicate requests. So this is an example, Regan's been working with the static scene cue level for several weeks and we're just beginning to present him with element cues.

Slide 66:

Video: Regan

Meghan: Okay Regan, can you put the man behind the cup?

Regan: The man.

Meghan: Yup, the man behind the cup.

Regan: The man in the cup.

Meghan: Yup. We're going to do behind. So, the man behind the cup. The man behind the cup. Like this. Perfect.

Regan: Perfect

Meghan: Yup. Behind the cup.

Regan: In the cup. Behind cup.

Meghan: Put the ball in bag. Ball. In. Bag.

Regan: Ball in bag.

Meghan: Yup, perfect. Good job. Can you put the girl on the block?

Regan: In the block.

Meghan: Girl on the block.

Regan: On the block.

Meghan: That's right you put the ball on the block. I want you to put the girl on the block.

Regan: On. On block.

Meghan: Yea, you put the girl next to the block. I want you to put her on. Like this,

Regan. Girl on the block. We'll do the kiss next. Put the girl on the block. First do this.

Good. Girl's on the block. Yea.

Regan: Block. On the block.

Meghan: That's right. We're going to do on again. But, this time we're going to put boy on the ball. Boy on ball.

Regan: Boy. Boy. Boy on the ball.

Meghan: Very good, just like that. The boy's on the ball. Good Regan. Boy on the ball okay. Can you make. Can you put the man on the ball?

Regan: The man on the ball.

Meghan: Yeah, can you put the man on the block?

Regan: On the block. On the block.

Meghan: Very good. Now put the woman on the block.

Regan: Woman. Block. Woman block. Woman on.

Slide 67:

We're finding it's challenging to transition from the scene cues to the element cues so currently what we're doing is introducing something called a mixed display where we have the static scene cue paired with the element cues to really point out the associations between the two types of visuals.

Slide 68:

Progressing from the dynamic scene cues to the static scene cues tends to be relatively easy in terms of our observations to date. The transition from static scene cues to element cues is relatively challenging. But we would hope that the payoff is worth it because we want to build the foundation for generative language. And our ultimate goal is for learners to combine these language element cues with their knowledge of semantic relations for generating novel sentences for requesting, directing, commenting, and asking questions across a variety of settings—at home, at school, and in the community.

Slide 69:

This is an example of how we would combine those language elements in a conversational display in a more naturalistic manner. Conversational displays are also known as a topic displays, which is a communicational grid display arranged by agent, action, and object. It can be either electronic or non electronic. Typically a lot of our conversational displays that we're using consist of removable symbols with accumulator window. So the learner can observe how the elements combine to generate full sentences. When we're using conversational displays we're using a lot of modeling of the utterances. We're using two way interactions to promote back and forth communication between the learner and mentor. We're using these displays during highly motivating activities with the child or adult we're working with who might be motivated to communicate during playground, bubbles, swimming, etc. Instruction may begin with a series of object elements – so preferred objects that the learner is requesting, and we would gradually add action elements and agent elements as the learner is successful. Finally, we would add adjectives, prepositions, and comments.

Slide 70:

This is an example of a conversational display for a bubbles activity. Agents are on the left, we have actions here, attributes, prepositions, and then comments at the end. And our accumulator window is at the top.

Slide 71:

This is an example of using a conversational display. This is Charlie; he is three years nine months old. When this clip was taken he was speaking primarily to request and he had been introduced to a Picture Exchange Communication system for requesting. This clip demonstrates how we can use visuals to get these kids directing and commenting and communicating for more pragmatic purposes.

Slide 72:

Video: Charlie

Meghan: Charlie. This is Charlie. Do you want to pop or do you want to blow?

Charlie: Blow.

Meghan: Blow. I want to blow...

Charlie: Bubbles

Meghan: Bubbles! Okay! Blow bubbles. Whoa that was a big one! Okay it's my turn. It's Meghan's turn. Meghan's turn. Meghan. Meghan. Blow. Big. Bubbles. Let's read it together. Meghan blow big bubbles. Okay get ready, are you going to pop it? Whoa was that a big bubble? Do you want another one? Another one. Whoa! Whose turn is it now? Bubbles. More bubbles. Is it Charlie's turn or Meghan's turn? Meghan's turn. Is Meghan going to pop or blow?

Charlie: Blow

Meghan: Blow

Meghan: Little or big.

Charlie: Big

Meghan: Meghan blow big bubbles. Here they come. Whoa they popped in your face. Okay Charlie I'm going to let you move the pictures now. You tell me what you want to do. Okay can you sit up? Okay. Whose turn? Show me. Bubbles, move it up here. Good job, bubbles. Do you want to blow or pop?

Charlie: Pop.

Meghan: You want to pop. I want to pop the bubbles. That's right. Where's your popping finger? Where's that finger? There it is. Pop those bubbles Charlie. Pop them. They're everywhere. You're popping them! Good job. Hey Charlie watch this one. Let's make the bubbles go up. Bubbles up in the air. Go up!

Charlie: Up

Meghan: Up! Are you ready? 1, 2... up! Bubbles. Wow!

Slide 73:



So that's an example of modeling expansion and enhancing the linguistic complexity of a child's message.

Slide 74:

Now I'd like to go back to the challenge I was speaking about earlier—transitioning from static to element cues. We're finding that not only are individuals with Autism Spectrum Disorder experiencing difficulty reading these cues but also typically developing children who aren't yet literate are experiencing difficulty. So in this video clip you'll see a typically developing five year old who is not yet reading, and she's having difficulty understanding, should I read the symbols from right to left or left to right, and a lot of the individuals we're working with are having difficulty inferring the meaning of the action element and the prepositional element that's at the center of these phrases.

Slide 75:

Video: Skylar

Meghan: You do it. Do this. Put together the sentence--The cow pushes the ball. Nice. Good working. Alright I'm going to take this back and we're going to do one more like this. I'm going to give you. Do this. Good for you. Very good! Do you want a break?

Slide 76:

As Meghan indicated the moving from the scene to the element cue is very challenging and if it was easy we would have done it long ago because we had these preposition representations and action representations from Mayer Johnson and other symbol sets for some time. We're trying to understand a way of making that happen and how to do it better. We're looking at typical three, four, and five year old children to help us explore that question. And we're doing it with language. If I say to a typical five year old with language, have the ladder push the ball, they're going to get it. But if I try to introduce it just using visuals. Placing things as Anna was doing in the video it becomes more difficult. It begins to help us understand the difficult that individuals on the spectrum who also have difficulty with the language have. In light of that, so we're using what we call buildable displays, we're also looking at the use of typically developing children as models. We don't believe that the symbols that do exist to represent prepositions and adjectives are quite right so we are trying to develop better ways of creating elements. The prepositions and the action in order to give us a better ability for the child to understand that relationship between this isolated symbol and how it's related to the beginning of the sentence and the end of the sentence. It's difficult. We're going to continue to do that—trying with typical children and also in our therapy situations. Trying to have a clinical model at our center so we can better understand how to solve this very challenging problem. We think it's the holy grail in terms of teaching language concepts. If it was easy it would have been done long ago. So we think we have a beginning. We have a scope and sequence that seems to make some sense and we're going to be taking our research to explore and report on it so we can tell you about it.

And of course we're trying to get generative language with our PECS program which is very effective for very early communication but it isn't enough. It sort of puts a ceiling on how far you can go. And a speech language pathologist certainly needs to understand that PECS is a good beginning but we need to go way beyond that and not just creating static, robotic, the same kind of sentence for wanting everything. We really want to teach a generative language and we really believe that that is a direction that we as a profession need to take.

Slide 77:

Thank you slide

(no audio)