**CVI and AAC Presentation with Amelia and Sylvia 2-11-22 (01:22)**

SYLVIA MANGAN: If anyone wants to put questions in the chat, you're welcome to do so. And whichever one of us is not presenting at the time, we'll do our best to answer it. We've planned it out so we should have some time for question and answer at the end. But if not, maybe we'll have round two. I don't know.

All right. So welcome to the presentation. We're so excited to be here. As we shared, we work in the Early Learning Center, and the Lower School. And when we sent out the Google form, one thing that almost everyone said, yes, I want to hear about that was, what we look for in vision assessments when we compile an AAC system.

So this is a really big topic. And I spend really about three weeks talking about this in the online course that Amelia and I discuss. So I'm going to hit the highlights here. And it won't be everything, but it'll be something to take away at least.

So disclaimer, I'm not a TVI. I'm solidly an SLP, and I'm going to stay in my scope of practice, which you can find on this slide. But most of my caseload has CVI. And I did get to graduate from the CVI certificate program at UMass Boston, which I highly recommend if you're able to participate in it. It's excellent. And this is what I gleaned from all the resources and the courses I've taken from Ellen, and as well as the CVI certificate programs.

So this is what I've taken away. But I'm not credentialed. I'm not a TVI at all. And it's really a lifelong process to stay up on CVI. It's always changing. And the publications are really exciting. It's kind of dynamic. So I never feel like I've arrived.

And I do want to say all of the reports that you do are important and informative for AAC. And really, collaboration is essential for any kind of AAC development. And one way I know you're busy, and you're connecting with a lot of professionals, and you have a lot of students, but a really solid first step in collaborating is to share your reports. Anything you've got, share them with your speech pathologist. Because everything is going to be helpful for us as you'll see.

And that's asynchronous. You can read someone's report on an off hour. It's easier to schedule that. So I'm pulling out the things that are especially relevant for AAC systems. You know what an FVA is. So I don't have to explain that.

I will say, Promising Practices say that it's great to include more than one test battery, and also, really critical to remember all those ocular conditions that do also factor in. There are some great webinars on AAC and CVI out there that are from other organizations outside of Perkins. And many of them rely only on The Range. And The Range tells us a lot, but not everything.

So just a quick reminder that when it comes to a AAC and CVI, I love seeing a test that draws from-- an assessment that draws from multiple test batteries. We do the same thing in language assessments. A thorough assessment has a lot of different test batteries.

Let's talk a little bit about the learning media assessment. Tammy Reisman is incredible, and has taught me a lot about the learning media assessment, and the CVI certificate program. But as she likes to emphasize, it's legally mandated. And what I especially find helpful is thinking about what's the easiest way for the student to access information. And especially which sensory channel is the most reliable means for them to access it.

So this is a really broad assessment. You work so hard. And there's a lot of observations to get a thorough learning media assessment done. But your results there are really helpful to us when we think about what sensory channel is the easiest means of getting information to this child.

Because not every AAC system is visual, and not every student with CVI requires a visual AAC system. So if there's a learning media assessment that results in a visual primary sensory channel, then we would consider a visual AAC system, like GoTalkNow, or TouchChat, or something lower tech, maybe 3D. But if the primary sensory channel is tactile, then a more tangible tactile based system is appropriate.

And then remember the combinations. If you have someone who's a tactile learner first, but auditory second, then we include switches with those objects, right? And if the primary sensory channel is auditory, partner assisted auditory scanning is excellent, auditory fishing, 2-step auditory scanning. Just remember that when we think AAC, people usually jump right to pictures. But a thorough learning media assessment might find hey, this kid really relies on sound a lot more than their vision at this point in their learning. So I think we need to remember that when we're developing AAC systems.

So we'll give you the slides. So when I click through really fast, don't worry. You can come back and review it later. And I think we need to-- when we're thinking about learning media assessments, just a brief note, I think we need to listen to adults who have CVI who have a lived experience with this.

So there's one blog that was pretty impactful for me in my journey that shared that sometimes, putting vision first always is exhausting. And they wrote a letter. There's a blog on the link in the last slide that said, "In an open letter to all parents, professionals, and other loved ones of folks with CVI," this blogger who only identifies themselves as an adult with CVI gives a really strong plea to provide choice and agency for students with CVI if that's possible, and in whatever way it's possible to give them the autonomy and the ability to choose what kind of media is the most comfortable and accessible to them. Then we need to give them that choice.

So this person, this adult describes their own traumatic experience with being challenged to use their vision as primary too much when they felt that auditory and tactile methods were more appropriate for them in the long run. So their closing statement was helpful for me to remember. They said, "Being sited is beautiful. Being blind is beautiful. And all the space in between is beautiful too. Please present your CVI child with options, and then give them the freedom to choose. Your CVI child will grow up to be an amazing CVI adult either way."

So I think it's helpful for us to remember visual systems are wonderful, and have an incredibly robust amount of vocabulary and language you can include, but so are auditory systems, and so are tactile systems. So let's let the learning media assessment and the sensory channel checklist especially kind of guide our practice, and what we start to focus on.

Yes, OK, let's think about print and font accessibility. There are some people who like to put a lot of words on AAC devices. And as an SLP, I love having exposure to print. I think that's really critical for building literacy. But sometimes, I think we jump a little too quickly to programming words, or bubble lettering onto AAC systems.

So we want to remember that when it comes to reading, as you all know, there are so many visual skills required. And that they may be impacted by CVI. So a chapter I found really helpful was on the Impact of Visual Impairments on Reading in Reading Connections Strategies for Teaching Students with Visual Impairments by Kamei-Hannan and Ricci. So I would check that out just as a reminder of all the visual skills that kids need in order to read efficiently, and discriminate text. Because those end up being important if you're programming a lot of words onto an AAC system.

So there are a few key skills that I do want to see before I would consider programming a ton of words on a visual AAC system. Central vision is essential in order to discriminate the level of detail required to differentiate between printed words, because they look really similar if you're using your peripheral vision. And a lot of AAC devices vary the font and size of words automatically. So size is no longer consistent.

And Ellen actually pointed this out to me. So thank you, Ellen. Size becomes inconsistent. And it's no longer a consistent means of discriminating between words. And this also means you can't reliably present words in the recommended font size, or in the recommended size that the child requires. So for example, if you're programming a sensory page, and you have parachute and hoop, they might look like they're the exact same size length, because they shrunk parachute down, and they enlarged hoop to fit the button size on the AAC system. And I have not personally encountered a high-tech system that doesn't do this yet. So bear that in mind, that if we're jumping right to words, sizes and length of word becomes less of an adequate means of discriminating between texts.

I'm just going to refer you over to Tammy Reisman, and Ellen Mazel, and Anne Spitz for their great series. You've probably already seen it. But their series was really helpful for me, and when I was thinking about all of this. And really, what I took away from the learning media assessment is that we as SLPs, and TVIs, and parents share a really similar desire for accessibility across all settings, and emotional behavior, biobehavioral states, and we support this by selecting the easiest, most reliable, most efficient method of access.

And we're going to talk a little bit more about access method. Thankfully, Amelia has taken that topic on. It's a big one. But we really do have that desire in common. We all want our students to be able to communicate clearly and easily, and in whatever is the most accessible means for them.

All right. Form accessibility, it's a hot topic. Matt Tietjen's 2D Image Assessment is incredible. If you haven't taken his course yet, I would recommend it. It benefited me in many ways. I'm going to fly over it. I'm going to hopefully assume that many of you are familiar with it. And just quickly note that it can be adapted to students who are not verbal. You can identify things respectively instead of expressively, having children select a photo from an array, instead of telling them to tell you exactly what they see.

And that's a really nice way to collaborate actually in the assessment. Because as SLPs, that's partly our zone, is thinking through how can we adapt these tests to our complex communicators. So if you're struggling with how to assess using the 2D image assessment, loop in the SLP and see if you can get some good brainstorming. One caveat, make sure that they are able to discriminate 2D before we jump here, right? We need to be sure that they can recognize familiar and motivating objects in 2D, because I think sometimes we really jump to 2D a little too quickly.

So let's think through the 2D Image assessment, and how we can apply it for AAC. The recommendations from this assessment really helped me think through what kind of 2D visuals are most accessible for an AAC system. So for example, if the child reliably recognizes real photos, like in the bottom right of this screen. There's a picture of bubbles, and a picture of a wrapper snapper, then that's probably what they need, instead of this high contrast, abstract, color illustration that comes Symbolstix or Meyer-Johnson.

So we think through which is most easily recognized. And I just think about it as setting up our kids for success by picking an image that they'll learn more easily and more quickly. So I'm going to just fly through the continuum of images that Matt Tietjen includes, and just share places and AAC systems that you can find these. Just wanted to share some examples.

So for real photos, they're really easily understood for someone who has 2D image recognition. And they're usually the first step to transition from the real object to a photo. Apps that can be adapted with real photos, or GoTalkNow, TouchChat, Wordpower20, and honestly, many more. They're getting better about including this as a really nice option. It takes a lot of programming on the SLP or the TVI's part. But there are many that now can be adapted with real photos.

Realistic color illustrations are usually a little bit harder to discriminate, but sometimes, they're also a little less cluttered than photos. So always assess. But some examples of symbol sets that are realistic color illustrations are on the right here. This is PCs Thin-line, and PCs In-context. They're both symbol sets that do come out of Meyer-Johnson, but are a little bit more realistic.

Abstract color illustrations, they provide salient color cues, right, that support visual recognition. But really, we're relying on the visual features to identify what we're seeing here. So examples of this would be Meyer-Johnson, SymbolStix, LAMP words for life, they're all pretty abstract. But kids sometimes learn and memorize them anyways.

Realistic black and white illustrations give a lot of the visual features, but don't include any color cues. We don't really see this much in AAC systems anymore. And the last one, abstract black and white line drawings that you rely solely on the knowledge and use of the visual features. And this actually, you see in your environment, right? This is for my ONMs out there. Environmental signs are often abstract black and white line drawings.

So we don't see them as much on AAC systems. Back in the '60s, '70s, '80s there were a lot of these. Picsyms on the bottom here that were used in AAC systems before color printing was more prevalent. But really, I see this more in the environment than I do on AAC systems.

All right. What's the complexity framework? Hopefully, you already are familiar with the idea of this. It's built on the idea that a learner with CVI will have visual skills that fluctuate depending on the complexity of the environment, and also, depending on their levels of visual fatigue, their internal biobehavioral state. So a CVI schedule is a really helpful tool.

Just a couple of quick takeaways for this when it comes to AAC. Oh, one quick-- I really learned a lot from how he categorized skills into what's comfortable, what's challenging, and what's frustrational as visual tasks. I really find this report really critical when I think about the child's ability to access their AAC device throughout the day, and across environments. So I know this assessment takes forever.

I took the class, and there's so many pieces of it. But if you're able to complete it, or even just the checklist where you categorize what's comfortable skill, what's frustrational, what's challenging, it can be so helpful when I think about a child's school day, and how they're using their system throughout the day. So I aim to design an AAC device that becomes visually comfortable to access, so that the child can easily access the device throughout the day, and across environments.

And if accessing the device is in the learner's visual frustrational zone, then they can't access it anywhere except for my little pristine therapy room, which is not always pristine, because they're right next door to other therapy rooms. And sometimes, our friends have a hard time. But if you do decide that a visually complex AAC system is helpful and essential for building a robust communication system, we got to talk about supplementary AAC systems. What can you design so that they're able to communicate in the lunchroom, in the hallway?

So we have one system. And I think often, we put a lot of pressure on that one system. But let's recognize that often, our children with complex communication needs are multimodal communicators. And I have one student who uses a high-tech device, but she signs, and she uses gestures, and facial expressions really effectively. And that's what she uses a lot more in the hallway, or in the lunchroom than when we're at the table.

So think through aiming for something that becomes comfortable to access. It might not be right away, but it needs to become that fairly soon. And if you can't do that, think about supplementary systems for sure.

Task analysis is just helpful when you think about what's challenging. I've already shared about that. But if I'm teaching a new skill in AAC, like, if they're really good at requesting, but I want them to learn to comment, then I'm going to make that comment as visually easy as possible. Because I want my students to only have to do one hard thing at a time.

I also think about my environment. You guys are pros at this. So I'm not going to preach to the choir, so to speak, about offering visual breaks and adapting your environment, and thinking about setting yourself up for success. But I do find the What's the Complexity framework helpful when I think about that.

Thinking just a little bit more about other visual supports that you might see. These might be results you get from a functional vision assessment, keeping in mind assessment results for integration of competing sensory input, and impact of spacing and clutter, and impact of light. Those also factor in when I think about my therapy space. Like I said, we want them to do one hard thing at a time, so I want the environment to be as comfortable as possible.

So that means I use light intentionally, invest in lamps instead of overhead lighting, or have overhead lighting that can dim, and reducing the clutter. Ellen has that two wall challenge that she did through Perkins where we think about removing clutter from two walls, so that an individual with CVI can have a safe space to learn, really. And also, thinking about making it a quiet environment.

And I also think about competing tactile input, and interoceptions. So I have a student who I see right before lunch. And during that session, I can't teach him a new visual communication skill, because he's hungry, and he's distracted. And he can't use this vision as well.

So just bearing in mind that interoception, and vibration, and maybe his brace is rubbing on his legs, those are all going to interfere with his ability to learn a new visual skill, and use his vision, especially if it's a visual AAC system. So this is probably all things that you already think about, but I would share it with your SLP, so that if they're learning a new system on their AAC, that it would be helpful for them to set themselves up for success when it comes to noise, hunger, tactile input, vibration, make sure that they only have to do one hard thing at a time.

Here's an example of the two wall challenge with one of my kiddos, and a long suffering grad student. And we already kind of went over this. So that's good. We can be strategic when we're doing this. Oh yes, one more thing, generalization. Once an AAC skill is mastered in a comfortable environment, like in the speech therapist room, or maybe with you in a TVI little room, I know they put both SLPs and TVIs in closets, in public schools often. I've been there before I came to Perkins. But at least it's small, and it's quiet, and you can adapt it.

So once it's mastered there in that comfortable environment, begin introducing increased clutter, and competing sensory input to support maintenance of the skill in new settings and new biobehavioral states. And we have to be strategic about this, and we can't neglect this step, because generalization is hard for every kid who's in speech therapy. And I think it's even harder if they're an individual with CVI who needs a little extra support to process their environment.

So think about adding a higher cueing level. Amelia's going to review that with you. But thinking through how to give a little more support when you're asking them to do the same thing but in a more cluttered place.

Form accessibility is really huge, as we've already shared, thinking through the Matt Tietjen assessment. But individuals with CVI might need extended time to interact with materials in order to build a strong visual or tactile memory of the material before you attach any symbolic meaning. So as Bruce found in their publication, individuals with sensory impairments need a lot of time, as you all know. I'm preaching to the choir here. But you need time with the object to in order for it to be discriminated from others.

And they might need hand under hand stuff. So I love active learning for that. I have a couple of kids that I'm going to introduce to a GoSwitch. And right now, their active learning setup is bright green arrows that are 3D printed. And I'm going to attach one of them to a symbol after they've had enough time to really explore them. This takes collaboration with the classroom, which I know takes time. But if possible, if setting up an active learning setup with the materials that you're going to use in a system prior to attaching any meaning to them can be helpful, and can set you up for success.

So that was a massive flyover. But as TVIs, you're all tasked with such an incredibly challenging amount of assessment. And anything you share is so helpful to us as SLPs, and families, as we consider what's accessible for our students. And please do remember as I shared, visual access is not the only method of access for AAC. And the information in TVI assessments doesn't only tell us how to design accessible systems, but also how we can implement them, which we'll talk about a little bit later.

There's a lot of information in this lecture. So I am willing to share a resource that we developed called "TVI Reports for the SLP." I should probably rename it, and say like, TVI reports, and AAC systems, because it's not just for SLPs. But it's a quick reference. I designed it targeted towards SLPs, because it gives a quick explanation of what all the assessments are that you do. But there's also a little bit of information about what we would take away for an AAC system. All right. And I'm going to pass it over to Amelia.

AMELIA WILLCOX: OK, everyone. So for the rest of this presentation, basically, that was an overview of vision, and how we collaborate together with TVIs. Now, we're going to go over basically sort of little highlights of different aspects of AAC systems. I haven't seen any questions in the chat yet, so we certainly want to be making sure we answer questions that you have, or discuss topics further that you want more information on.

So feel free to write them in as you have them. But certainly, we'll leave time at the end as well. So Sylvia has talked a little bit about access already, but I'm going to discuss basically, we'll start out with different switches. Sylvia, you're going to have to advance the slides for me. Thank you.

SYLVIA MANGAN: My bad. I'm sorry.

AMELIA WILLCOX: That's OK. So basically, there's different access methods available for a variety of different AAC supports. So there's what's called Direct Selection, which means that you're using your body to access the device. So that could be something like using a pointed finger, could be using your hand. Eye gaze would be considered Direct Selection, things like a head or laser pointer.

And then there's also alternatives like, things like a mouse, keyboard, joystick, right? It will depends on the person's physical ability, and what access method is best for them. We also want to think about with switches that I was saying above you can do your finger, or your hand. But you can also do different parts of your body. Some people benefit from a foot switch, right? So it just depends on what part of their body they Have the most reliable access to, and the most ability to move when they want it, and in the way that they want to.

Sylvia, would you go back for a quick second? There's also Indirect Selection, which involves scanning. And there is a variety of different types of scanning. We could get into the finer details of all of it. But basically, there's visual scanning. There's auditory scanning. There's partner assisted scanning, which Sylvia was talking a little bit about before.

That just involves the person having a communication partner that's supporting their scanning. And I'll get into this a little bit more later on as we go. And then you can use a combination. You can use visual and auditory scanning together, all those kinds of things.

So there's different switches out there. And I presume you know a good amount about switches, so I'll just do little highlights. But again, let us know what questions you have. Different switches can really benefit a few factors. So definitely, access is one of them. But also visual factors. Some are easier to modify than others. Some can be used with different types of stands. Some are closer together, right.

So this picture that I have on the right is two switches. They're together, right? There's no way I can move those switches further apart. If I put a visual on those, that's where they are, right? And I can modify the visual all I want, but I can't modify their positioning in that.

Some people will benefit from that, right, for their physical access and their vision. And some people will need things spaced out more, all those kinds of things. The three options on here a BIGmack, a little LITTLEmack, and what's called the Twin Talk. There's lots of options out there. These are all able to be recorded on.

So you can have tactile elements based on making different adaptations to the covers. You can add visuals to these, velcroing or taping pictures, visual tangible symbols, different tactile elements, colors onto these switches. And then they record as well. So you can have the auditory feedback of a recording on there are too.

Then there's switches that can be used with computers, like actual computers, or tablets. They can be used for switch activated toys. And these can be used for scanning as well. So where you're activating the switch, these all have examples of a switch that has something that you'll press, or depress with either your hand, again, your foot, whatever it might be.

And they have a cord, right? So that can attach to another type of switch. It can attach to a toy, so you're activating the switch, and it's giving immediate feedback of the lights turning on, turning on your music, right, all those kinds of things. And these can also be used with voice output switches. So if somebody has an easier time accessing this kind of a switch, because it's thinner, because you can place it in a better spot for them, because it's better for their vision, you can make all those adaptations. And there are ways that you can use these in conjunction with one another.

So then there's switches for scanning. I'm presenting switches that have two aspects to them. This would be something for 2-step scanning, where you're hitting one switch to say continue with my choices, and you're hitting another switch to say, that's the one that I want, right? And this can be used in a variety of ways.

It can be used with a high-tech device, so the iPad, or a tablet is saying your choices, and you're hearing them. This can be used through pictures, right? This can be used with partner assisted scanning. You can do it with real objects too, where you're showing a person, you know, you're holding up, do you want this? And then they're saying yes or no with their switch. And then you're saying, OK, do you want this?

So there are different ways that you can do scanning. And there are different sorts of ways that you can present them. So again, like the switch on the left shows two buttons right next to each other. But the switches in the middle show two different switches. And you can present those in different areas of the person's body, or visual field, right? Then you can do something like head switches, where they need to move their head back and forth to hit the switches. So there's lots of different adaptations we can make to support the person's access.

So some people will benefit from other adaptations as well, things like key guards, stands, mounts, and specific positioning of their devices. This is certainly something the area of access is really a great opportunity for us to collaborate together, both with TVIs, with occupational therapists, with physical therapists. We want to make sure just as Sylvia was talking about before with vision, that access is just the easiest method it can be, so that their language can grow in its robust manner as possible, right? We want to be pushing their skill, but able to meet them at a place that's comfortable for them, so that they can access the language and visual aspects that we're trying to teach them as well.

So I'll give you some examples. There will be some pictures too. But basically, key guards are used on high-tech devices, and they're used for Direct Selection, direct access. And really, it's accessing with your hand. So you're either using a pointed finger, or you're using some combination of your fingers, maybe your fist.

They're totally customizable. And I'll show you, again, a couple of pictures. But basically, they're used to avoid accidental activations. So for somebody who's working hard to use a tablet that has multiple pictures on it, we want to make sure that if they're trying to access one picture, whether it's two pictures, or 10 pictures, right, it doesn't matter. Because the key guard can be customized to their needs.

We want to make sure that when they're reaching, they're able to reach for the one that they want, and have as little accidental activation as possible. So just because they're working hard to point their finger, and get over to the left, the key guard is there to support basically their access, so that they don't accidentally hit the right, because they happen to rest their wrist there, or they hit it with another finger, those kinds of things. So basically, it's like typically a plastic piece that will outline each cell that the person has, and then they can activate it a little bit more easily and accurately with their hand.

And I should say they can come in different colors. So the picture that I have here is black. You know, it's nice that they come in different colors. Because depending on the background of the screen, if the device itself is going to have a black background, maybe black will be better for them. They also come in clear. So then it's kind of flush with the screen, and it's not-- we don't want the key guard to be obviously visually distracting to a person, right, so you can make those customizable aspects.

This one of course, shows the key guard with lots of different options. But I hope that it's helpful just to see what a key guard can look like on a screen. Again, you can make one with just two, where it's basically a line in the middle, and two big boxes, right? You can make one with four, where it's just four quadrants of the screen. It's really whatever is going to best suit the person's needs.

So then there's stands. And this is a part that SLPs and TVIs really need to work closely together about. Because the stand can really help, especially for something like I'm showing high-tech devices here. They need to be in the best visual field, and as easily visually accessed for the person as possible.

So while I've talked about the physical aspects of access, the stands start to come in. They pair the physical with the vision, right? Where can I put this within the person's visual field? What angle does it need to be at? Does it need to be higher or lower? And then you can get stands that also adjust. So based on their positioning, places they are in their classroom, various activities, maybe they needed adjusted during the day. And you can find stands that do that as well.

So then you can make things that are kind of customizable to a person, right? So you can have-- on the top, I have visual tangible symbols on a little stand. So it's having them on a tray where they have a little bit of an angle, so they're not flat. They also have space on their tray to engage in an activity. But it's there to support their vision, so that they have it accessible to them. They can reach out for the one that they want, and presumably, also support their vision in the process.

On the bottom, there's a picture of a slant board. I bet you guys are familiar with those from the ADC. But we can use those to support somebody's vision to have their tangible symbols, their pictures, whatever it might be out and accessible to them visually.

And then you can make little stands for the switches too, so that the switch doesn't have to be flat. But it can be elevated a little bit while still giving some space. These three are all of the Assistive Device Center has helped us make. And I mean, I don't need to give them a shout out. They're like the most wonderful people that'll do whatever you need.

So just know that they're there to collaborate with us and say, hey, I'm looking for this. Like, I need the switch at this angle. And they're like, yes, let me do it, you know? So there are definitely options out there. And then finally there's mounts, right? So things that are sort of going to stay a little bit more stationary.

With a stand, usually, the device is just sort of placed there. And you can just take it off. A mount usually has it secured, so that the device isn't going to go anywhere. You need to push a button, pull something to take it off, right? So that can help some people, that if they're going to physically touch it and such, it won't fall over while they're trying to do it. They won't knock it over, those kinds of things.

And there's tons of different mounts out there. So it will depend on the person you're working with. They make mounts that can attach to a wheelchair. They can have table mounts, where you're s to put that on the table and attach the device. There's floor mounts, right? So if they're in something like their stander or those kinds of things, then they can have a mount that would be kind of able to push around on the floor. They are various sizes. They do various things, but they're out there to support a person's access.

OK. So that's a little overview of access methods. Now, we'll talk about considerations for visual tangible symbols, so switching gears a little bit. So visual tangible symbols, I'll give you a good amount of pictures coming up in terms of some examples and things of that sort.

But basically, what we think about in terms of visual tangible symbols are, there's a 3D aspect to them, right? So they're often very helpful for people who are still benefiting from the 3D nature of the objects that they're shown. But this is starting to be a symbol, right? The visual tangible symbol represents what they're talking about. It's not the item itself, right?

There are ways that we can make these with the item itself. Let's say somebody really loves bubbles. You can make a tangible symbol with the bubble bottle that they use, right? And it's more concrete for them. And then as their language develops, the symbols are going to become more abstract.

I'll get into some examples for something like asking for more, or for help. There's no specific picture we can use to get that language concept in a symbol. So we're going to pick something that's visually accessible to them, and we're going to teach that symbol. And we'll get into that a little bit later.

But basically, when we're making the visual tangible symbols, we want to consider some main factors, including the contrast of the color of the item on the symbol. We want to think about the relevance to the student's life. So as much as possible, we want to make it so that the object on the symbol makes sense to them, and pairs to whatever concept, language, aspect they want to talk about.

We want to think about the color of the symbol, the shape of the item on it, the texture of the item. And when possible, we want to present symbols that are just one solid saturated color, right, so that we're just supporting a person's vision, and not saying here's a busy symbol. It's symbolic in itself. We want the visual aspect of it to be accessible to them, and not be cluttered up with other things.

So here are some examples of some visual tangible symbols that are more symbolic, right? But these are what we call core words. So it's words that a lot of people will want to use, and will use throughout their day. These are just some examples of ones that we use in our school. It's not the only way to do it by any means.

But you can see at the top, there's a picture of our symbol for more, which is a triangle of beads like from a little beaded necklace. And we make them blue, so that everybody that's presented with the more symbol might be presented with these blue beads. We customize them to different students. So some people have learned these beads in a different way. And so they'll have red beads, or they'll have green beads, whatever it might be.

Additionally, if they have a preferred color that they are able to visually attend to more often, if more is a concept that they really need to learn, and we need them to visually access this symbol in an easier way, we're going to use that information that you've given us to say, hey, more. This is such a motivating thing for them to say. This is a moment of frustration they might feel. We need to make this visual tangible symbol easier for them to visually access, right?

Our all done bin is like a little box, so it sort of references our finished bin. So in referencing this to a student's life, they might practice putting items that they're done with in a finished bin, right? It's going to be bigger, but it's going to be white with yellow trim, or it's going to be white with red trim. And we're going to make the symbol the same, as close as we can to that, while making it small enough to be symbolic on the card.

There are other examples on this as well. Break. Help is shown with a blue cross. Yes and no are presented with a green circle, and a red X. And go and stop are presented with a green arrow and a stop sign. And Sylvia was referencing go a little bit before.

I will say one thing about these is, we try and make them visually distinct from each other. Because a person could really use all of these within their communication system. And when things are becoming a little bit more similar, so something like yes and no, and go and stop, they're both green and red symbols. So what we've done, and what we often do is, we'll make yes, on a white background, and go on a black background.

So that even though green is going to be the defining color for those symbols, you'll have a little bit of visual distinction between the backgrounds on them. You'll also have the context of the activity and such. But we want to make sure people aren't mixing up the symbols just because the color is the same. We want to have other defining factors that say, this is what go is, and this is how it looks. They also feel tactically different from each other. But for visual, we want to make sure that they're distinct as possible.

And then some examples of our feeling symbols, this is one that we definitely get asked about a lot in collaboration. So I felt like it would be a nice example to give. Again, these are examples. There's nothing that has to say you need to make them this way, or even that you should.

But what you can see is even with a larger group of totally symbolic visual tangible symbols, they're all visually distinct from one another. We've shown different colors. There's different tactile elements. We make them both with the Meyer-Johnson pictures. And those also have the background color will match what the tactile element of the symbol is.

But we also make them without the Meyer-Johnson picture, right? So it's just the tactile element for the person. It just depends on their vision, and what they're ready for in terms of understanding these symbolic concepts. But even in a bigger group, you can differentiate as best as you can the tactile elements, the visual elements.

We also do black and white cards you can see on these for contrast purposes. So excited is at the bottom, the yellow with the little balls. If we put that on a white card, it wouldn't be high contrast anymore, right? So we take into those accounts that we want it to be visually distinct, and we want it to have high contrast as much as possible.

OK. So now, we'll talk about how we can teach these supports. We've kind of talked about the basics of different support so far, and now, sort of teaching concepts, which is a part that we really both collaborated on so closely. So when you're teaching a new communication skill, it would be basically the same as teaching a new visual skill, right? We want to make it motivating for the person. We want to give them opportunities to practice and natural and exciting opportunities for them.

We want to make it fun and engaging for them. That all kind of goes hand-in-hand. We often want to follow the person's lead. So instead of us sort of creating an activity and saying, this is how you learn this concept, we're saying, how are you learning it? And what are you benefiting from as we go? What activities do you want to practice with? All those kinds of things.

And then we want to use as many communicative functions in the beginning of teaching somebody a new system as makes sense for them. So we always want to be pushing a person to be able to have-- different communicative functions can be things like requesting, refusing, social niceties, right, saying hello, goodbye, advocating for themselves, asking for a break, saying they need help, telling you to stop, those kinds of things. For some people, that will also include things like asking questions, initiating conversations, right.

So we'll take into account all those factors. And just the amount that you'll present will depend on the person. And we know that as they build their skill in whatever is best suited for them as they start, we know those communicative functions are going to increase as they build their skill, right? We're going to continue to think about what other functions are they ready for, how can we expand the functions they already use, those kinds of things.

So then there's aided language stimulation principles. So this is a way of teaching communication supports that involves the person's communication partner. So that's us as therapists, that's you as TVIs, teachers, parents, all those people, using verbal speech, while also modeling on the person's communication support to build meaning, understanding, and accurate use.

So it's important to model on a person's device. Because communication through any kind of AAC support is just different than verbal speech, right? So if we're saying the word-- I'll stick with our example for more, right? If we're saying the word more, we also want to model how the person can do that with their AAC support.

So that might be saying more while showing them the tangible symbol. That might be saying more while showing them a picture. That might be doing the sign for more while saying the word, or using their high-tech device, right? Even though a high-tech device will have verbal output, and so will a switch, it's different. There's just a different access method. It's a different sound to it, all those kinds of things. So we basically just want to pair our models with the support that they're using as much as we possibly can.

And then there's a concept of a cueing hierarchy, right? So as a person who's learning a new AAC support, and really learning anything new, we want to think about how much support do they need at the start to be successful, to be learning, to pair the meaning, to have success in practicing themselves. And then how are we going to back off as they continue to grow their skill, and support their independence, right?

So I've listed these in relation to most support to least support. These are cues that really relate to SLPs a lot. Some of them will overlap with you. But it's not an exhaustive list. There are others that are available.

But thinking about something like giving a physical prompt in the beginning. You're teaching somebody to reach out, maybe you're supporting them a little bit at their elbow. Maybe you're helping them a little bit at their wrist. Maybe you're even doing a little bit of hand under in the beginning.

And then you're phasing that out as quickly as you can, because we want the person to be able to learn that movement, or whatever might be that sign as quickly as they can without us touching them. So as we can, we're going to phase out those supports, and then we're going to try other things. So maybe they needed a model for the sign for more. Maybe at start, you're doing a little bit of hand under hand with them. Then you're starting to just show them the model of more.

Then a delayed model would be you show them the model for more. Maybe you show them what they're going to get more of. And then they produce the sign for more. It continues on.

But basically, the point is just, how are we sort of in our head thinking about, OK, my student benefits from this level of support right now. My next step will be to try and move to whatever less support is going to benefit them, still keeping their accuracy up, but giving them more independence. And then of course, as they continue on, building more and more and more independence as they can.

SYLVIA MANGAN: I'm going to jump back in for a couple of slides here. So when we think about AAC implementation, I think it's really helpful for us to be structured, and really intentional, and have careful data collection. I have a love/hate relationship with data. It's essential to my craft, and it is challenging.

So you may feel the same. Maybe you love data. If you do, talk to me. I would love to know more about why you love it, and how you collect it. But it's so key for when we're implementing and teaching new skills.

So I like to do a task analysis to break down a complex task into smaller component parts, and then teach them in a logical sequential way. This comes out of our behavioral research and applied behavior analysis. And Marguerite Tibaudo has a really wonderful webinar on this. The citation is in the works cited, but it's on the Perkins website. Just thinking about how we break down skills, including AAC implementation into bite-sized pieces that our kids can make progress with.

So for example, if my goal were for a student to make a meaningful choice using partner assisted auditory visual scanning, so that would be holding up a picture of an iPad, giving them a chance to look at it, and then I would label it. And so let me break down the task again, because I kind of jumped ahead there. In order for them to make a choice with this 2D representation, I would have to hold up the iPad, let them look at it in silence to visually process it, listen to the auditory label, recognize the material, and then reach out if they want it, touch the iPad to indicate a choice, and then wait for that reinforcement, and then receive the reward.

So that's a very broken down task analysis. But it can tell us where to start. Maybe my first goal is for them to look at the iPad. And then the rest of it is, I can give them more support. And then once they're great at looking at the iPad and listening to the auditory label, I can support them with their reach, right? So we think about what level of support, where on the prompting hierarchy, or cueing hierarchy they need support, and also, where in the task analysis can they start and be successful?

So another possible place to begin, errorless learning with highly motivating material that comes with a quick reward-- less than two seconds is what I aim for-- Can teach something very quickly. And the more immediate the reinforcement, the better. The less time you have between the stimulus and the reinforcement, the more they associate the two.

So this could be a screenshot of a preferred YouTube video song on an iPad. And I can program that page to play the song as soon as they touch it. So all they have to do is reach out, and tap it, and they get that song immediately. So that gives a really quick reinforcement of that picture representing that song.

And then we track the level of support they need in the data, and gradually fade that support as they master the task. This can feel overwhelming and granular, but it helps us know that we're making logical progressions in how we implement our therapy routines. It simplifies things for the student, and for the SLP, and hopefully also for the TVI.

I'm also going to share a little bit about routine-based learning. A lot of this I get out of research that's in the DeafBlind community. So I'm sure that some of you are already familiar with this. But routines are so important when supporting individuals with sensory impairment. And I just want to share, highlight a few specific benefits that make me understand just how worth it is for our students with CVI and AAC systems to learn in routine.

So routines provide a systematic approach that's individualized to meet their skills and preferences. Routines provide stability. And when learning in routines, the individual has the best chance of recognizing an activity, feeling safe and secure, learning, and responding. And they create opportunities for predictability, consistency, repeated practice, and anticipation. So there is many benefits to learning and routine.

So what does that look like with AAC implementation? Snack time. Snack is so motivating. And it's a great way to get kids excited about their AAC system. So I developed a little routine for this kiddo here. And these are all the skills that we targeted, device ownership, modeling basic spatial concepts, which is a good pre-literacy skill, thinking left to right progression, requesting preferred foods, and understanding the concept of all done.

So I would tell her, it's snack time, ask her to carry their AAC system to the table-- so that's device ownership-- carrying their own system. Set up the SGD, the high-tech speech generating device on the stable table mount, and their optimal visual field placement, with the page program for snack time all ready. So that would have, I want, and then all their food and drink choices. And they would also have more, and all done.

Then we'd ask the student to climb up into the chair, and then cue them to buckle themselves in, model that spatial concept of in, I push you in. Tell the student, time for snack. What do you want today? And then use whatever level of cueing support is necessary to help them choose on the SGD.

And after any item is finished, help them drop or push the object into an all done bin on the right. Hold it up in their optimal visual field, and label it. Spoon is all done with aided language stimulation, and modeling on the SGD. I would hit spoon, and all done on the SGD as well.

Play routines, AAC should be fun. So when we think about implementing it in play routines as well, it can still be routine and fun. So for example, if there is a student who loves bouncing on the ball, I can target all these skills in a play-based routine of bouncing on the ball. One-step routine directions, stop and go, commenting, more and all done, and word approximations.

So I could tell the student, it's time to bounce on the ball, and then cue them to push the yoga ball over to you, to me. Bring the ball here with the gestural support. Place the high tech SGD on a stool or a mount next to me within reach of the child. Sit down in front of the child, and verbally cue them to sit on the ball. It's another routine direction, sit on ball.

And then start playing a song that they associate with it, the bouncing on the ball song. Pause it at predictable intervals. Verbally cue the student, do you want more? And remember that cueing hierarchy as you support the student's ability to reach out and activate more ball on the SGD. And then immediately reinforce the request by pushing play on the music, and helping them bounce right away, that short interval of time. A smartwatch helps with this, little trick of the trade. If you can start and stop your music on your watch-- just a little tidbit-- it can help move things along a little more quickly.

One more routine to share with you, greetings routines. The skills targeted here are saying hello, participating with a schedule system, repetition of concepts surrounding all done. So I would welcome the student into the speech room, say, hello Kerry, welcome to speech, present them with a visual tangible symbol schedule for the therapy session, or an object, whatever it is you're using. Point to the first symbol. It's time to say hello.

Help them visually regard it. And then reach out and explore it by touch. This all depends on their learning media assessment results, like, how were they accessing these symbols? And then play a highly familiar and fun hello song. And at the end of the song, cue them to say hello.

And this depends on their biobehavioral state, and readiness to participate. Maybe that's pushing the hello button on the SGD. Maybe it's supporting the elbow to wave. Maybe it's a word approximation. It depends on where they're at.

And then help them put that hello symbol into the all done bin by holding up the all done bin, placing it on the edge of their tray, and cueing them to push the symbol into the bin. Hello is all done. Push it in. So these are all these symbols that are in a predictable routine, so that our students can learn this skill of greeting in a motivating and predictable way. And I'll pass it back to Amelia.

AMELIA WILLCOX: We got two more concepts to cover. And we're doing pretty good on time. So I think I'll be able to get through both of these, and then again, questions at the end. So we'll talk about comprehension checks, and how we can work together to do those.

So while a person is learning any type of an AAC device, we always want to make sure that they're comprehending what they're asking for, what they're talking about, and how to use the device itself. Every person is going to be different in what their needs are, and how they're going to demonstrate their ability to comprehend. And I'm going to present you just some ideas. Again, this is not an exhaustive list, but some ideas do sort get us thinking about this topic.

It's a place where vision skills and language skills work so closely together, because oftentimes, especially if we're presenting a visual target for the person, you're thinking about visual recognition in terms of their visual skills. And we're thinking about the language comprehension. And they're so interrelated to each other in terms of the things that we're looking for.

Especially for our students who aren't able to tell us exactly what they see, we want to use these comprehension checks to be able to say, yep, you're understanding this, right? We're talking about the same thing. You're using this accurately, all those kinds of things.

So basically, I'll go over here some comprehension checks for no tech AAC support. So those would be things like the use of signs, gestures, your gaze, facial expressions, and actions, and body movements. So we always want to monitor a person's use of total communication, all these kinds of factors, to observe if it matches what their communicating with their AAC support.

So here are some examples. Are they using their gaze to communicate thinking about a certain toy, activity, or person? So maybe you're referencing a toy for them, and they're starting to use their gaze to look at that toy. Maybe they're smiling in a way that demonstrates that they want more, or are enjoying an ongoing activity.

So if you're asking them, if you're pausing and saying, do you want more? Maybe they're smiling to say, yeah, I do, right? And maybe you're pairing that with a visual tangible symbol, or pairing that with a picture, pairing that with the sign, all those kinds of things.

And then finally, this is just another example, are they producing a sign within the appropriate context in a way that matches their use of total communication? So if they want more, but they're producing the sign for all done, that would be an example of a way that they might not be comprehending either the sign itself. Maybe if it was a visual tangible symbol of that, maybe they're not quite understanding the symbol yet, and we need to take that into account when doing our teaching for them. We want to make sure that they're expressing what they mean to be expressing, and that we're able to confirm that that's the case.

So then there's some examples of comprehension checks for low, mid, and high-tech devices. So those would be things like single switches, two switches, vision boards with different visual tangible symbols or pictures, and high-tech devices, things like the iPad, or eye gaze systems, all those kinds of things. So for people using some sort of device, symbol system, even real objects, we could do things like show them, or do what they expressed, and then monitor their use of total communication.

So maybe they're saying, I'm ready to eat. Well, maybe we get their food out, and then maybe they either follow their routine, or they're really happy that we got their food out. What if they asked for something like, oh, I'm ready for my fruit. We present them their fruit, and they don't want it, right? Maybe they're pushing it away, saying no. That would give us a little bit of pause and say, oh, did you mean to ask for your fruit?

I mean, we're all human right. Maybe they made a mistake, and didn't mean to push that one. But maybe they're not sure what the word fruit means yet, right, and we need to pair the meaning a little bit more. So we just want to monitor those things with them.

Tell them what they're choosing, and ask them again. So you might tell them something like, you're reaching for whatever it is. Is that the one that you want? And then you can look. They can reach for it. You can label it again. And that's a nice way for them to confirm their choice. Yes, that's what I'm thinking about. Let's do that together.

You can switch the presentation. So for some people, especially who are using their vision, maybe you're moving things from left to right, right? So one time you're showing them here are your two choices. One is on the left. One is on the right. Then maybe the next time, you're presenting them opposite, and saying, OK, if you still want the bubbles, come and find them. And making sure that they're not just relying on the position that you're putting them, or the predictable nature of it.

Some people will really benefit from the predictable nature, and that will support their learning. But as people grow their skill, we want to make sure that they know, can you find it on either side? It gives us some really good information about what they might need to support their language and their vision. And if mistakes are being made, how we can support that, so that their communication is as clear as possible.

We can support them to confirm yes through total communication. So again, we could say something like, are you reaching for whatever? Tell me, yes, and then maybe they do that through smiling, through vocalizing, through activating a switch, those kinds of things.

And maybe when they make a choice, even with something like visual tangible symbols, or pictures, maybe then we show them the real associated items. So if we showed them two toys with a picture, then maybe we get the real items out and say, OK, come and get it, and see if they can find the item that they're looking for. We've made the visual task then easier for them. And it's a way for them to confirm, OK, I knew that picture was this toy. And that is what I'm talking about wanting. Now, let's do that together.

So I talked a little bit about this. But what about when errors happen, right? Again, we're all human. This is a learning process. People are going to make mistakes, right? And we want to be there to support their learning, tell them when a mistake has happened, and then help them correct it.

So we might increase the support that we're providing to them. So again, with that cueing hierarchy, but even related to vision, that maybe we make the visual target a little bit easier. We want to confirm this is what you're talking about. And then we can go back to the higher tech, or the more robust language system, so that we can be sure that we're really modeling what they want, and not just guessing.

So we want to look at that, both through the lens of modeling and visual access. We might reference their error and ask them for clarification. So we might say something like, you chose this, but it doesn't seem like you want it. You know, and then we can tell them something like, let's try it again. Do you want this or this? Are you saying this, right?

And it's a good check for us too. Because sometimes, you might think, oh, you're saying all done, but then you present it again if you're unsure. And then they really wanted more, right? Sometimes, it's like I had a moment of being tired, or I wasn't ready yet, you know? Or you were rushing me, whatever it might be. And so we want to just give people some time to say, I'm listening to you, and let's make sure that I understood correctly. So just some little examples here.

So if we're offering the choice to them saying, let's do it again. Do you want this or this? If they choose the other option, a different option than they did before, offer that, and then closely monitor their signs of total communication to see if they're enjoying it or not. If they're not, then maybe they don't want either of those choices, right? And that's something that we need to teach people to be able to express.

If I've given you two choices that you don't want, they need a way to tell me like, no, I don't want that. I want something else. Maybe they need a break. Maybe they needed wait time. Maybe they're done. So it gives us these opportunities to build their language, while also making sure that it's really clear for them.

And then if they choose the same item again, so in this example we were saying, oh, I'm giving you this. It doesn't seem like you want it. Let's try it again. If they pick the same thing again, then we just need to really monitor their total communication, again, very closely. Maybe we're giving it to them and say, hey, this is what you're talking about, right? Is this what you want? And then give them feedback. It doesn't seem like you do, or it does. So just really making sure that we're monitoring that closely for them.

OK. So then this will again, be an overview. Everybody that's using some type of eye gaze system is going to be very different from each other in terms of their visual considerations, and their language considerations. But I'll go over some basics of what we want to consider when using eye gaze for an AAC system.

So often, people think about high-tech AAC systems with eye gaze, something that has computerized screen, or a tablet. It has a video monitor that's monitoring your eyes. And you're using your eyes as a direct access method. There are also low-tech eye gaze devices. So using whole objects, visual tangible symbols, pictures, and photographs. Those can all be used with eye gaze as your mode of direct selection, right?

So you can hold up two objects, two pictures, and the person is looking at the one that they want to talk about that. That's an eye gaze system. It's just a low-tech eye gaze system. And of course, when we're doing eye gaze, this is something you all know and support us with, but we want to think about all the factors that will be needed when using your vision as your access method. So things like environmental factors, visual supports, cognition, and language abilities. number field choices, and wait time just to name a few.

So these are just some examples of some low-tech options, just holding up two real objects, or showing two pictures, and having the person look at what they want. In the picture on the right, the person is also reaching. They can use eye gaze and reaching right. But anyway, you can show these in different ways, even with just low-tech options.

So then we need to think about, of course, for our students for CVI how aspects of CVI are going to affect their ability to use their gaze with an AAC support. So people will need to be able to visually attend to the targets for a period of time. So they need to use their gaze to look at the objects or photos to communicate.

On a high-tech device that's going to include dwell time, so how long do they have to look at the image on the screen before it's going to express their message. That's customizable. So again, it will depend on the person that you're working with, and their vision abilities. And they need to be able to sustain their visual attention for a period of time in order to use their device to communicate during ongoing activities and daily routines.

Again, this period is going to depend. And it will depend especially on the day, the activity, the environment, those kinds of things. But if they're using an AAC system, right, we want them to be able to use it for long enough period of time to both communicate and share what they're thinking about, but also to engage in the activity, to use it in a robust way that they can use throughout their day.

It may not be all day right. But they need to be able to use it long enough that they can learn it, use it to communicate, and not feel so, so fatigued by the time they need to switch to something else. They need to be able to visually recognize the pictures presented on the screen. So Sylvia was talking about that before with 2D representation.

And then depending on how many pictures are shown on the device, we need to take into account visual clutter, right? So we talked about that a little bit before too. Some devices can be presented with one or two pictures, all the way up to lots, right? So that'll depend on the person themselves.

OK. So when we're thinking about these CVI supports, we want to think about supporting the person's needs for accessing their device, how will the device be presented to them both visually and language-wise. Do they understand how to use the device accurately? So part of learning and eye-gaze system, and any access method, is just understanding what part of your body you're using to access the device, and then what it's doing.

So they're expressing their message. They need to look at the target, the one that they want to talk about. They need to look at all the presented visual fields, so they know what options they have. They need to be able to shift their gaze. So once they activate the device, they then need to be able to shift their gaze so it stops activating.

If they've made an error, they need to be able to know how to correct those arrows, and tell somebody, like, wait a second. No, no, let me try again. So all those things are part of sort of just teaching somebody to use a new device.

OK. So then what about when people experience visual fatigue? Certainly, we'll take this into account with an eye gaze system. But any system that uses visual aspects needs to be thought about in terms of if a person is experiencing visual fatigue, how are we going to make modifications, because they still need to be able to communicate all their thoughts, wants, and needs with us, just not in a visually taxing way for them if they're feeling that visual fatigue. So if visual fatigue begins to play a role for someone, and of course, we know that will be for pretty much everybody that we work with who has CVI, we can think about certain things, and take things into account.

So if an AAC system requires visual attention, and recognition to be successful and accurate, the person will need alternative ways to express themselves in moments where they're visually fatigued. This will depend on the person. And this may be like a lower tech AAC support that might include more tactile elements, or more elements that are presented in a predictable way. So for example, maybe their switches are presented in predictable locations, so that they have the opportunity to visually access them, but they also have the opportunity to reach out and find it on their left or right.

There might be the use of no tech AAC options. And Sylvia was mentioning this before with her student, that she's using a high-tech device, and routine activities, and when she's visually ready. And then at other times, like in the hallway where it's very busy, she's using things like gestures, signs, facial expressions, all those kinds of things. And then we just need to remember that once the person is visually rested again, they should be able to then access their more robust communication support.

OK. So that's it for us. Hey, we did pretty good, 9:16. We were hoping for 9:15.

SYLVIA MANGAN: Oh, we hit our target. That's great.

AMELIA WILLCOX: So hopefully, you know, that was helpful to you all in terms of hearing like how we use your specialty, how we can work together, the aspects of what you do that are so important to our work as well. We're certainly happy to answer questions, or delve into some topics a little bit more too.

SYLVIA MANGAN: Definitely. Ada, I see your message. And we'll be happy to share the slides with you. And I can also pass along the resources that I created for SLPs called TBI Reports for the SLP, and then CVIs Visual Behaviors in AAC. They're kind of packed, so you might need to like talk it through with your SLP colleagues. But they might be helpful. So I can send those to Lacey and Emily. And maybe they can pass them on to everybody. Any questions?

SPEAKER 1: Quiet group.

SPEAKER 2: I just think there's so much information here that you've shared, and it's so rich. And I just want to thank you both. And I was saying that I would really love to see short video clips of you working with your students, and sharing when they're making choices, and just seeing their timing, all of the things that you talked about. I'd love to see that in relationship to the CVI, the CVI kiddos doing the different activities. But this was amazing. Thank you. Thank you.

SYLVIA MANGAN: Thank you, Susan. I think it might be-- maybe Amelia and I can circle around and see if we can share some videos another time.

AMELIA WILLCOX: Yeah, that'd be great. I mean, I love taking videos of my students, because then it helps me over time see, oh, look at all-- I mean, I know the progress, but it's like to see it visually, you know, you're like, look at this. One year ago, we were working on what-not, or last month, we were working on whatnot, and now look at you. So yeah, we can work on trying to get some of that together for you all.

SYLVIA MANGAN: Yeah.

AMELIA WILLCOX: As much as you can talk about a lot of it, but sometimes, it is really helpful to see some examples.

SYLVIA MANGAN: I also am enjoying the chance to connect, because Community Programs and Lower School don't do much together. So it's nice to get to see faces, and put names with the faces that I see. So that's great.

SPEAKER 3: One of the things I found helpful in this was having just examples of what communication devices I can use. So I work with infants, and the kids who transition. So often, I get asked, well, what can we use? And I'm like, I don't know. And often, the SLP doesn't necessarily know either, because I don't know why they don't know.

But anyway, so it's very difficult. And then you've got these reports from like the AAC Department, and [INAUDIBLE] and it's this whole thing. I'm like, well, that's not really relevant, because maybe it's a lot of like picture stuff. I'm like, well, they see that, and pictures aren't their primary-- this is not how they learn, is it, visual. So I think this was really helpful. Because now, I can bring some of this. Like, well, maybe you can look into this, and see if that'll work. So thank you.

AMELIA WILLCOX: Sure. Especially, like I mean, I was mentioning just in the beginning, I work with the Early Learning Center here. So I get the kids who are coming to school for the first time transitioning often from community programs. And it's great to see when teams have understood like all the different aspects of AAC, that I think you're right, a lot of people tend to think, I've got to get to more robust language. That's through pictures. That's through a high-tech device, right?

But especially in thinking about the comprehension checks and such, like somebody has to be able to understand what they're talking about. And if they don't, we're going to get to more frustration later. We're going to get to more communication breakdowns, which is the opposite of our goal.

So especially when they're younger, and when they are building their visual skill with CVI, there's a lot of options for real objects to be used, paired with, lots of AAC supports. And that can just be through your body, and even your visual gaze and stuff. And that can transition to pictures. I mean, there's no question about these things. But there are ways to support AAC and visual needs all in one.

SPEAKER 2: Are you available to do these AAC CVI assessments for families? I just am very curious. Because I finished working with a family. And they are in the process of transitioning. And that is the key question right now. What communication device is going to support this young girl in moving into preschool?

And I, as Jessica said, I'm looking at all of these options that you've-- I'm thinking, oh, would that one work? But do you provide that for families? Is that something that Perkins-- can they schedule an AAC-CBI assessment with you?

SYLVIA MANGAN: Kind of. We do outside evals. And so people are welcome to come and do an outside evaluation. To help us really know how to support that child's language, or communication, it helps for them to have had a recent CVI assessment beforehand, and then for us to have access to that. And Amelia would be the one who would do that. Because Early Learning Center outside evals are in her arena solidly.

But there is a long waiting list. I'll be honest. But that is an option. Parents can come to Perkins and do an-- we call them outside evals.

SPEAKER 2: OK. I mean, just specifically for the AAC, is that--

SYLVIA MANGAN: Yeah, you can ask for a speech eval. And if your priority is AAC, then you can put, we really want to know about AAC options for this child.

SPEAKER 2: Oh, OK. All right. Thank you. Thank you.

SPEAKER 1: I didn't realize that. That's good to just for future kiddos. And because I feel like a lot of what we see, particularly in infant/toddler is that there is a big push for pictures early when they're not understanding. And there's been words. And you know, like, it's pretty amazing when a kid will come back from his AAC eval, and they'll come back with all these pictures, and clearly, they have no understanding of how their visions impacted with this whole thing.

AMELIA WILLCOX: We certainly see that with our outside evals. Like, most people do want to come to Perkins for the vision aspect, that they want a robust language assessment, but they want the visual aspects of this person to be taken into account when making those recommendations.

SYLVIA MANGAN: And with 2D, just a quick side note, my biggest thing is, you have to be able to discriminate. I think recognition is the goal. We want you to be able to recognize materials. But if you can't even access to the point of discriminating between broad colors, then we can't assign meaning to something that you can't discriminate from something else.

So I do have some kids who are still bridging from 3D to 2D, and are doing pretty well with 2D systems. But that's because they're at the stage where they might not recognize everything right away. But if I have an array of four pictures, they can discriminate between them. And with the muscle memory, and the predictability of their routine, and everything, they are able to access it meaningfully. So AAC has like muscle memory, and location, all of that supports their ability to access it. But if there's no discrimination, I mean, we can't do anything. So yeah.

SPEAKER 1: Any more questions? Well, thank you, Amelia and Sylvia. We really appreciate you doing this for our program. It was great information. And the reason we thought of them is because they did teach-- they're teaching a course. Is it offered in the spring again too? CVINA, see if you guys are interested. I took it in the fall. It was great.

SYLVIA MANGAN: Great. You'll see some of this content in there if you take it.

SPEAKER 2: Is it through Perkins or UMass? It's through Perkins.

SYLVIA MANGAN: Perkins e-learning, yep.

SPEAKER 2: And when does it start? You have a certain starting date for it?

SYLVIA MANGAN: Do you remember, Amelia?

AMELIA WILLCOX: The spring is in April, right? And then we just decided to do one in the summer too, which is going to be June.

SYLVIA MANGAN: Yeah, mid to the end of June, I think. And then it ends in the last first week of August I think.

SPEAKER 2: OK. So you're going to teach the same class two times. OK. All right.

SPEAKER 1: Thank you guys so much. This is wonderful.

SYLVIA MANGAN: Sure, thank you, everyone. It's good to get to meet you all.

SPEAKER 2: Bye. Wow, Lacey, this was awesome.

SPEAKER 1: I mean, I like their class. I think Sylvia is the CVI type. She has that background. And

SPEAKER 2: Terry.

SPEAKER 1: Amelia has a good understanding of speech language.

SPEAKER 2: Well, I really liked how they--

SPEAKER 1: Terry, you're muted.

SPEAKER 2: Talked about it. We can't hear you, Terry. Are you talking?

SPEAKER 1: She was.

SPEAKER 2: She was. And we can't hear her.

SPEAKER 4: Sorry. Happy Friday.

SPEAKER 1: Happy Friday.

SPEAKER 2: Happy Friday.

SPEAKER 4: I was looking just now, and it looks like, Susan, I'll try to find the webinar for you for e-learning. Is it the CVI AAC matrix? Is that the course?

SPEAKER 1: I can find it.

SPEAKER 4: Oh, that's not the course?

SPEAKER 1: I don't think so. It's through-- oh, I cannot minimize when I'm in Zoom. I'll find it.

SPEAKER 4: If you hit Escape, you can minimize.

SPEAKER 1: Oh, oh.

SPEAKER 4: A little trick.