Back to Basics: Low-tech AAC Options and Strategies for Use in the Classroom
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- [Amy] And it is pleasure to introduce Kristy Razzaghi this afternoon, who is going to be presenting on Low-tech AAC Options and Strategies for Use in the Classroom. Kristy is a licensed SLP who earned her undergraduate and graduate degrees in communication disorders from the University of Kentucky. She has worked in both clinical and school settings. Her career has focused on serving those with complex medical and communication needs and utilizing a variety of low and high-tech communication options. So welcome Kristy, thank you so much for joining us.

- [Kristy] Thank you for having me. And I'm glad everybody could join me today for this. I, like most of you, are probably in a quarantined situation, so I feel like I have secured the dogs and the kids, so hopefully there will not be any background interruptions. So like Amy said, yes, my background's primarily in the clinical setting where I did a lot of AAC evaluating and then also working on the implementation of using AAC. And that was with both children and adults. I'm currently working in a school setting where the majority of the students that I have on my caseload are in specialized classrooms and are minimally verbal to nonverbal.

And so I'm able to use that clinical background that I have with using all of that AAC knowledge and carrying that over to the schools. And then these are just some of the disclosures that we have here. I won't read them to you, but those are there. Learning outcomes to identify three benefits of using AAC communication. Being able to identify at least three low-tech communication options as you see there'll be many more. And then also to identify strategies for using these low-tech communication systems in the classroom. I can remember from my time in my clinical practice that one of the biggest frustrations from both families and from school teams was the difficulty with feeling like, uh oh... Sorry, my screen went away. I don't know if that was just me or everybody else, but I think mine is back. Okay. Sorry, so one of the biggest frustrations was
feeling that, the schools feeling confident and that they had the knowledge and the comfort with being able to use AAC in the classroom and effective strategies to share with their team to be able to incorporate that into classroom activities. This is the ASHA definition for AAC. So looking at the attempt to study when necessary and compensate for temporary or permanent impairments, activity limitations, and participation restrictions of individuals with severe disorders of speech language production and/or comprehension. I mean this includes spoken and written modes of communication. And then what we'll be looking at in a little bit, or today, are the devices and methods of communication, which can enhance or provide alternatives for spoken language. So looking at unaided communication versus aided communication.

So when we're talking about unaided communication, looking at the unspoken means of natural conversation, so you have your gestures, your body language, your facial expressions, these are things that we use everyday without even realizing that we are communicating in other ways other than what is actually spoken. And also in that unaided category, comes your sign language as well that we as speech therapists, go to. Again, sometimes when we're not even realizing that we're doing it, we're supplementing some of our verbal language with that sign language. And then your aided communication.

Anything that includes any kind of external support, so you're looking at your communication boards, your symbols, any kind of computers or devices you may be using, handheld devices, and of course our go to a lot these days are using the tablets that generate speech as well. When choosing an aided augmentative communication system requires careful consideration of an individual's current skills and their strengths and what their needs may be. But it's also important to remember to not restrict their potential. Assessment strategies can lead to a bigger understanding of different options for different symbol systems and access modes, the contexts where the individual must communicate, skills and supports available to the partners of the
communicator, and also looking into the profile of the individual, including their vision and their hearing, sensory motor, motivation. Motivation is a huge one. Their cognitive ability, linguistic ability, their literacy skills and then their current modes of communication as well. And for unaided communication, these modes of communication, they all, you have to remember they often require adequate motor control and communication partners that can interpret the intended message. And then for both aided and unaided augmentative communication, for individuals with severe disabilities, it can be helpful to encourage and teach both systems, both an unaided communication system as well as an aided mode of communication. And individuals may also need to be taught when it’s appropriate to use an aided system versus an unaided system.

So the benefits of using AAC. Obviously it can enhance expressive and receptive language development of a child. I know that a big concern of parents I often get when talking about using an augmentative communication system is is this gonna limit their possibility of having verbal expression? We know from both research and for myself in clinical practice, that a lot of times we see when we use that aided communication strategies, we help to decrease that frustration of the communicator, which then can enhance the verbal expression or approximations, or whatever they might be able to do. So I think that’s an important message to talk to our families about and our school teams about too. I know that that’s a concern as well.

Another benefit again I mentioned this just a second ago, reducing frustration, and then a big one, decreasing behavior. We see a lot of times some of the behaviors that we might see in some of our students or children that we're working with. You see a behavior a lot of times is because it's so difficult for them to maybe get their needs and wants across. And that becomes very frustrating. And then of course then that can result in a behavior that’s not appropriate. It promotes personal empowerment as it allows individuals to control their environment and interact socially. That our job is to
have our students come out as independent as possible. So we wanna be able to promote their independence and being able to communicate to the best of their ability. That increases their self confidence and self esteem along the way. One of the most essential factors I think in successful use of any AAC device, whether that be a high-tech device or a low-tech device is to respect and value for the form of communication that they are using. If the culture or the group does not value the augmentative and alternative communication then the likelihood of success in functional use will be limited. Okay, so considerations for using augmentative and alternative communication. First, you have to consider what are their current levels of expressive communication?

Whether their current levels of their receptive knowledge, social skills, cognitive skills, we need to look at all of those factors when trying to decide what kind of system might be most appropriate for a child. Literacy skills, where are they with alphabet knowledge or word knowledge or can they read sight words, can they spell? A lot of times I have students who have minimal to no verbal language and I have not had a lot of success with picture symbols and then all of the sudden, I've put a keyboard in front of them and they're typing full sentences, so that's something to take into consideration, what are their literacy skills is a work prediction type of system? Something that would be useful for them? Can they recognize symbolic language?

Do they know that a picture of a ball represents a real ball? Can they sequence symbols together? Can you take an "I want" picture and combine it with a ball and understand that that is forming a sentence? Being able to categorize, knowing how to find the language that they're looking for and if you're looking at picture symbols that are organized in a binder for the student, can they quickly flip to the colors versus the animals versus their play toys? So that's an important consideration as well. What about their background, their history of any kind of alternative communication use, do they have the family support? Again, like I said, families can be skeptical, they're afraid
to go down that path because they feel like it might be limiting what verbal speech they could have in the future. Making sure that they understand the benefits of augmenting communication. And then the big one, how is that school team support? That is a huge one, especially for a speech language pathologist. It’s hard because a lot of feedback I get from teachers is that we pop in and out for our sessions and they may not feel like we’re around until the next session and they’re left to implement what we’ve given them and feel maybe unsupported by that. So making sure that your team feels comfortable using whatever system in place and that you’ve shared ideas of how to incorporate it. And also to make sure that they’re not feeling overwhelmed, that it’s something that they have to be every minute of every school day. There’s appropriate times to use one kind of system versus another, versus maybe a completely unaided system. And then again, back to that motivating factor. Is the individual motivated to use augmentative communication?

That’s a big one. We know that a lot of our students have to have that reward factor to even get through their day. So they have to understand the benefit of being heard and understood. Other considerations? Again, their level of physical functioning. How are they gonna access whatever we’ve put in place? Are they able to reach and get the pictures off of the board? Or do they not have that level of mobility to be able to do that? So we have to look at their physical functioning. What’s gonna fit them best? Their progressive nature of disability.

Again, we don’t want to force a system on a child that we know that has something that’s degenerative, that their skills are gonna decrease along the way. So maybe they can access a device with their hands now, but in six months, will that still be the same story? We have to take that into consideration so that we aren’t totally focused on something that fits them now, but in six months have to learn something completely different. Taking that into consideration. Something that can serve them longterm whether they’re progressing or whether it’s a disability that’s degenerative in nature.
Again, the access to techniques goes back to that level of physical function. Can they do direct selection with their hands? Do they need scanning? Do they need to be able to access in a different way? Maybe it's a foot or head or elbow, or maybe it's none of those. Maybe it's just using eyes. Again, we have to look at the kid as a whole to see what will fit them the best. Portability. Something that they can move around the building with. Something that they can, a device maybe that's going back and forth from home and it's different environments. Are they the ones carrying it or is their caregiver carrying it? How heavy is it? We can't have a device for our preschoolers that weighs more than they do, so is it portable? Durability.

Again, going back to some of our students that might have some behaviors that come out due to frustration. People worry that if you hand them even a low-tech device, like a big mack switch or something, what happens if they get frustrated? Maybe throw the device or throw the switch. Is it durable? We have to take those things into consideration. Integration with other technologies. What other systems are they using to access maybe some of their academic work? And is what we're suggesting going to go along with that? Can it go hand in hand?

Again, sometimes when you introduce too many different systems to a kid they start to feel overwhelmed. So you want to make it gel together as much as possible. Then also have they had any evaluations or trials with multiple devices, to be able to really hone in on what will serve them best? Again, it goes back to what I said at the beginning is we wanna make sure that we're promoting as much independence and that we're not holding anybody back from what their full potential could be. So making sure that we're trialing things along the way, always trying to make sure that we have the best fit. And then something else to consider too when you're doing some of the evaluations and trials with devices, and I feel like this is something that any of us are in with AAC, we always try to remind people of that if you're increasing a motor demand for a child or an adult, depends on where you're working, but if you increasing that motor demand...
you need to decrease the cognitive demand and vice versa. If you're increasing the cognitive demand then decrease the motor demand. It's quite difficult for kids to do both. So if you have a child that's working on access, maybe using direct selection, but it's difficult for them, but you're also challenging them with some cognitive skills as well. Make sure you're not doing to much at once because that can become overwhelming for them and it's hard to tackle both at the same time. And then it's hard to know which one was holding them back. Was it because they couldn't access the device because of their physical limitations or was it because the cognitive demand was too high as well? So just keep that in mind. When you increase the motor demand, decrease the cognitive demand and if you increase the cognitive demand, be sure to decrease that motor demand.

Okay, so going ahead here and starting into looking at some low-tech AAC options. I mean your first option is always to go with vocalizations and speech. And that doesn't always mean speech like you or I use. It could be just using approximations of speech. Or using maybe even some broken phrases, but make sure that when those vocalizations and speech are used, that you're honoring in that, that you are recognizing that you heard that verbal attempt and if you understand that verbal attempt then take it. It does not need to be augmented any further. And then if you don't understand that that vocalization that has been made, I think it's always important, I always say I try to put the blame on myself.

I never want my students to feel like what they are attempting or doing is not good enough. I want them to feel like it's my issue that I can't understand what is being said, not theirs, and so you need to have them use one of their systems to help further understand what they're saying and that they understand that, "Oh, you did "a really nice job with telling me." I'm just, I'm not fully understanding, can you help me and give them the power to help you understand. Gestures, body language and sign language, we touched on these briefly, these are again our go to's. We use gestures all the time,
we signal to come here or held our hand up to stop. Using our body language, we can see a lot from our kids with body language. Whether they're turning their bodies towards us or away from us. We can see when they're bored or tired or frustrated, those are all communication strategies that we don’t even know that we’re using or they don’t even know that they’re using. And then of course sign language. And we’ll talk a little bit more about some sign language with some pros of using it and then some cons too, especially in the schools. Eye gaze or eye blink. Again, these are things that we can use that require no outside, no symbols, nothing else, it’s just using their bodies to be able to communicate.

And then we come down here into our symbols, which is a lot of what most people think about low-tech options. You start with them, you have your objects, your real objects. Photographs and picture symbols, your communication boards. So those all go together of using that symbols to represent language. Another option is partner assisted scanning. And we'll go further into each of these here, these are just listed here briefly. Partner assisted scanning. That's a big one that I use a lot with them. Some of my kids that have more physical limitations are able to access devices very easily. Partner assisted scanning is great to use. And then we've got some off the shelf low-tech options.

And again, sometimes thinking outside the box, it doesn't necessarily have to be one of these fancy devices that we all think about, but just paper and pencil. Dry erase boards, you can draw a happy face on one side and a sad face on another side and use that for yes or no or like and don’t like. Our preschool and kindergarten classrooms have those Magna Doodles. I've even used letter bracelets before for choices. It just has maybe ABC on it or one, two, three and using those choices to answer questions. And then of course then some of the simple AAC devices that we see often. Okay, so again, touched on this already, but I'll go over it a little bit more. Vocalizations and speech, as we know, just for quick, general intent. And again, it gains attention and it
should be recognized. I see sometimes a child maybe use their speech could even just be to say hello or whatever it might be, something, a simple message. And what we don’t wanna do is then say, "Okay, well I understood you, but can you use "your switch as well to tell me." That’s kind of... I don’t ask you to say hello in English and then hello in Spanish. If you say hello and I understood, we move on. So making sure that we’re recognizing their speech and their approximations even if it is slightly distorted. If it’s understood, then we should recognize that. And then if it does need to be augmented again like I said that’s something that we then move to. Like, "Ooh, that was a great way to try to tell me "what you were wanting.

"Can you help me further understand just a little bit "by making a choice between these two pictures?" Just so that to make sure that they are what you think that they’re intending to tell you is what they’re actually saying. And any speech that is intelligible to the communication partners, again, like I said, does not need to be augmented. And augmented speech and then you need to augment speech when it is not intelligible to the listeners. Okay, so gestures and body language. This is again something that we do all the time and we don’t even know it. Those conventional gestures, what’s recognized to society as a message with specific meaning.

You wave to say hello, you might motion for someone to come over, give a thumbs up or thumbs down for I like it or I don’t like it, or yes or no. Those are all easily recognized gestures that people typically know what those mean. So those can be taught as long as they have the physical ability to do it, that’s something that maybe you can teach. The body language we talked about, postural behaviors, some of our kiddos we can tell exactly how they’re feeling based on their posture in their classroom or if they’re sprawled out across the table maybe we need to get them up and moving. They’re tired, they’re not feeling well, those are all things that we can read from their body language. And then recognize it, say, "I see your head’s down on the table, "are you feeling tired or are you feeling sick?" Those are things that we can always, so that we
can let them know, I understand what you’re trying to communicate by having your head down or whatever it might be. Pros to using that. Obviously, nothing external is required. You don’t have to run and get a binder or a book or communication device, it’s right there, there’s nothing that's required and again it’s available in all environments. The cons would be limited to the number and type of messages obviously that can be conveyed. It’s limited to discussions of what’s happening right here, right now. It’s hard to gesture about the future or gesture about the past. And then it can become that game of 20 questions to make sure that you’re reading the body language correctly or the gesture correctly. And then again physical ability is required to be able to communicate in that way.

Okay, so moving to sign language. We’ll start with the pros here. May be learned more easily with reinforcements specific to a request. If we think about this, I know when my daughter was first born, and I was a new clinician, I thought it was so cool to teach my baby to sign more and want and milk and all of those really basic signs and if you think about it, all of those first signs that you introduce are highly rewarded requests. Put the Cheerios on the tray, you have them request more and you get more Cheerios right away.

So it’s something that can be easily reinforced therefore, it goes back to that motivating factor. More motivated to try that again to see if you get the same outcome. And if your communication partner is knowledgeable then they can communicate extensively with that partner, which is great. That can also be a con in the sense that if your communication partner is not knowledgeable, it can be very leveting. Sign language is not universal. As we know it’s a very specific system of communication. Another kind would be again going back to that physical ability, you must have those physical skills. It’s a very fine motor task in a lot of sense. You have to be able to have the physical ability to use sign language effectively. In a school setting, again, it’s difficult if your teachers and your intervention specialists, and maybe even some of
your aids in the classroom don't have the knowledge to use sign language, that obviously can be a con. And I can tell you that in our district the time to teach a system of sign language, it's not available. That's when though, if that is a primary way for students who communicate, that's when a discussion with your team, is there a need for an interpreter? I've got two or three students currently on my caseload that yeah, they have full-time interpreters with them. So that's a discussion with your school team, is that necessary? And that's our job as the schools to make sure that we are honoring whatever language system they have in place that they need the support with, so that's a conversation to have. And then the last con there, can result in decreased interactions due to lack of knowledge in sign.

So that becomes difficult, especially for peer interactions if our other kids in the classroom don't understand, that limits their interactions. But again that's where the interpreter can really be beneficial. I can tell you that I have a preschooler who has a full time interpreter with her and our other preschoolers just eat it up because and they wanna talk to her all the time because they love learning the sign, watching the interpreter sign, watching the students sign, and it's just been really cool to see the connection that that can create between a non-signer and a signer. So yeah, it can decrease those interactions, but it can also be a positive too if implemented correctly.

Using eye gaze and eye blink. Go through those pros first. Again, it's extremely flexible with positioning, so if you've got kids that have a lot of physical challenges eye gaze and eye blink is a great go to. There's not a lot of set up. You don't have to necessarily get out all the equipment to have them communicate. Again, if they've got some control with their eyes then that's a great go to. It's quick and easy. Eye gaze boards, they're easy to make. And you can jump online and do a quick search and you can see all kinds of different boards that you can create using just paper, using poster board or that foam core board, those kinds of things to make a quick eye gaze board. Can be good to use for quick choices for activities, answering questions, including those
academic questions. If we're using this while in the classroom to make sure that we're engaging that student and whatever task the rest of the class is participating in. And especially if they have a real reliable eye gaze, eye blink. Then that's a great way for them to be involved to be able to be included in the lessons being taught. It can be used with objects, pictures, frames, using the alphabet. Hands, I can tell you right now that a lot of times for my kids that have a real reliable eye gaze, eye blink and maybe have a pretty good vocabulary knowledge. I can just simply hold up my hand with nothing in it and give the directive to if you want music, look at this hand and if you want to read a book, look towards this hand. And without anything at all, they can look towards one of my hands and I can very clearly see what choice they're making. Requires nothing external.

And then initial letters, so even just using an ABC system to gaze towards for choices or a one, two, three, whatever work best. Some of the cons of using the eye gaze, eye blink. Can be time consuming to obtain spelled or lengthy messages, so if you're using an alphabet type of eye gaze system where you have to narrow down the letters as you go, it can be quite lengthy to be able to put a full word together and then if you're trying to put a phrase together that can be very time consuming and frustrating probably on both parts. Could be misinterpreted or difficult to read. If you get the eye gaze wrong while trying to spell a letter or I'm sorry, a word, trying to go back and figure out where the mishap was can be pretty frustrating again, for both.

And then it can become a yes/no game. Is this what you intended to choose? Is this where your eyes were looking? Again, we have to make sure with our kid is with this at the... Are taking their vision into consideration. This is when you might wanna consult with your school vision specialist or talk to the families about any outside medical information that might be needed to determine visually, what is possible and what is not. You might need to assess can they look left to right, can they look up and down? How fast can their eyes move from one location to the other? Those are all things we
need to consider about vision. Using some eye blink also, there's ways to do that. Once, twice, so you might teach someone you blink once that's yes, you blink twice that's a no. Again, looking up and down. Again, making sure that those are visually, with their eyes that they can move their eyes up and down. I have a student right now, she does great with right to left. Again, it's a little slow, you have to give her that processing time, but up and down is quite difficult for her, so that's not an option because we have to present things only right and left. And then another eye blink method is using fast versus slow eye blinks. And maybe it's you squeeze your eyes and that represents a yes and holding that blink for a long amount of time. And again, it's something to just play with to see where their abilities are. And then once you establish a system that that's known across the team and the family so it can be practiced in all types of environments.

So looking at aided communication systems and symbols. I know that when I was first taught this it was talked about as a hierarchy. You start with real objects and you end up at words. But we wanna look at this as more of a communication, or I'm sorry, a symbol continuum. The level of difficulty does not necessarily mean that once you move from one level to the next, you no longer use the other form or symbol. It could be that you use a range. And especially as you're moving across the continuum somewhat.

You might be using real objects and photographs at the same time. As you're moving maybe a little bit from more photographs to line drawings, you might be using both. And again, even words. So you might have a kiddo that yeah, has pretty good literacy skills. But they communicate faster by using pictures rather than I'm sorry, line drawings rather than words. So that's something to take in consideration too. It doesn't mean that they don't have the ability to use words, but if they're a faster communicator then by all means, let's maybe use a combination or stick with the symbols. So it's not if you just, it's not a strict moving from one to the other, it's
definitely a continuum to use however is fitting for that individual. So just a little bit about each of those, so as you know, objects, especially when we're first introducing this type of system of communication, we wanna make sure that they understand what vocabulary represents in objects, so that's your basic of teaching language in the first place, that this object that I'm holding, this word that I'm saying represents that. So objects is generally the way you introduce that. Pros there, it's readily available in your natural environment, so if you're talking, if you're in a preschool classroom, generally, if you're making choices you can use the actual toys. And that allows for that immediate reinforcement of the actual item.

You want the ball or you want the blocks? When you're reaching towards the ball, great, you get it right away. So teaching that quick cause and effect. Offers that tactile feedback, so if you have a kiddo that’s got some visual impairment, that maybe those line drawings or even those photographs takes more effort to really be able to see, but if they can feel and touch the actual objects that's a great way for them to be able to communicate those wants and needs more easily. And then just remember too that object doesn't necessarily have to mean the full object.

You can use miniature objects. I don't know if anyone has seen lately, probably if you have a younger child at home maybe and I can't remember what they're called, but there are these little egg things now and you open them and they have these teeny tiny, miniature representations of real life objects, so it comes with a teeny tiny real mayonnaise or a Lysol thing, it looks exactly like the large one. I think those are so cool and I keep thinking I should get a collection of those together for some choice making boards and kind of thing for my kiddos. Partial objects, you don't have to have the whole thing, you can just use partial, something that represents that object. So then what a lot of people commonly think of when we're talking about low-tech systems, using photographs and picture symbols. When we're starting to teach the photographs and picture symbols, pair that with the object, so you can teach that association.
Encourage the use of pictures across environments. So if you’re practicing using some pictures in the classroom, look at maybe sending some of those home so that the parents can use those with their child there. Again, to generalize across environments. Think outside of the box. It doesn’t necessarily have to be a Polaroid photo. It can be, but it can even be a magazine picture. Food labels, box labels. I have a kiddo that will only eat the store bought brand of graham crackers. You can’t just give him a graham cracker, he has to see the box or label associated with it, so use those labels to represent snack choices.

Make it tactile. Again, just because our children might have visual impairment doesn’t mean you just have to stick to objects, you can make those pictures tactile. Adding things to it to help with the description of what the picture might be. Make pictures easily accessible and we’ll talk a little bit more about that in a moment. But being able to quickly access those pictures. Again, it’s gonna decrease that frustration for both the speaker and the listener. Again, take into consideration vision. What is better for that student? Color pictures or black and white pictures? Or maybe for some of our students that may have a cortical visual impairment.

We know that a black background with a bright color on top. Red is a big go to or yellow or green, that contrast, visually, is easier for that child, so take that into consideration. Again, we have to consult with our vision specialist to see what they would recommend for that student. Picture symbols, so there’s so many kinds of systems, commercially available. Some of the ones listed here might be some of the more common ones that we hear people use. Boardmaker and Symbolstix are big ones. Are they available though? Are they available in your district to use? That’s something to consider. Or with something that’s more easily available online using some widget symbols or using some, I’m trying to think of the word, but I’m thinking of, oh gosh I can’t think of it, but where you can just go on and start some of the symbols if you don’t have access to some of these more commercially available sets. And then
also these are the things you have to consider. Your target audience. I know when I was doing evaluations for communication devices, you had to really consider the target audience. Some appealed more to adults and I know we're talking more here about classroom, but then you also have to consider your high schoolers. They may not like a picture symbol system that to them appears more childlike or maybe babyish in their opinion. So you need to consider your target audience. Again, visually take into consideration do those symbol systems come in color or black and white? How many symbols are available? Is there a wide selection?

You wanna make sure again it's a system that could potentially grow with that child. And then the million dollar question, the pricing for obtaining a symbol program. Again, it's something, especially in our school systems is the district will to pay for whatever that commercial system is? I think it's our job to be able to show how valuable it is and how much it's needed. And then, again, this is just some more things and I think I've touched on many of these. Considerations for choosing symbol sets again, go back to the vision. Situation and environment, individual preferences. What do they like? Sometimes you can again, back in my evaluation days it was you wanted to show a couple of different sets and one set might make more sense to an individual than another set.

So you wanna look at those individual preferences. Age, as we talked about a minute ago, cultural and ethnic influences, motor abilities and skill levels, those are all again things that we need to consider as we're choosing sets. Accessibility of pictures, this is a big one. I know as a speech therapist, I feel like I'm constantly trying to scramble to find my pictures and making sure they're accessible. I've tried so many different systems of organization over the years, it is what works for you and then for your team that's also helping to implement the use of those symbols. So organizing vocabulary by areas of the room. Many times, especially in our lower elementary levels, those they're set up, maybe you have a library area and a math area and then you have carpet time.
So make sure that the vocabulary that you would use most often for those activities is there and available. Categorize for easy location and accessibility. So make sure you have all of your symbols paired together, so that you can just grab and go. I can tell you, I don’t know if anyone will know what I’m talking about, but they make those big gum packs that you can see I think in extra gum and they come in these plastic packs now. And they have a flip lid on them and they’re clear. Once you take the gum out of it they’re clear and I will tell you those are so great for organizing vocabulary, they fit a good amount of words, I put a label on the top of it and then I organize them in shoe box.

So if I’m doing a reading activity and I need my Brown Bear, Brown Bear words, I can just grab that gum pack and carry it with me, so just figuring out what works for you to categorize and get those picture symbols where they're easily accessible. Keeping a Velcro board. I carry a Velcro board with me. I have some in the rooms that I’m in most often. I keep Velcro boards in there. I make sure that my gen ed teachers and IVSs that they have those accessible too, so that when I’m not there they have their own boards to use. Keep multiple copies of the ones that you use more often. I can’t tell you how many times I’m like where did my yes/no go or where did my help go. Use that core vocabulary ones that or your go to's. Just keep a stockpile of them so that they’re there when you need them.

Different ideas there, you can wear them, you can attach some of that loop fabric to doors or to walls. Again, make some slant boards. There’s all kinds of ways to have them easily accessible for you and your students. Static pictures and boards, again, they’re great because they’re interactive. You can allow the students to manipulate and move the pictures. You can use those static pictures and those boards to start to put symbols together to make sentences. There’s pre-made picture boards for communication. And a lot of times you can find those that are topic specific. I sent out an activity for remote learning the other day for a potato head and I did a quick search
and there one was. It was a static board that just had to be printed out and it had an entire activity for Mr. Potato Head. So yeah, so you can find those very easily. And then of course there's those programs that we mentioned earlier, some that are commercially available. You can create your own quite easily. Advantages to using those static boards. They are portable, they're easy to use and easy to construct. There's examples anywhere you look. There's different examples of different ways to construct them. The go to one is the three ring binder. You have maybe a sentence strip on the front, a couple of different sentence strips and then all of your other vocabulary categorized within that three ring binder, so it's easy to grab and go. It does however, one of the disadvantages, it requires active partner participation.

There's no voice output to it, so you have to make sure that your communication partner is right there, so that they can see those picture choices along with... And then the big one of course can be limiting in vocabulary. It's hard to carry around a big old binder full of hundreds of words, so you know you have to be very specific in what words you have chosen to keep in the binder, but it can be restricting, so it's a little hard to grow the vocabulary that way. Alphabet and word boards. These are great for our kids that have the knowledge to be able to use these. You can create novel messages on your own.

Again, you're not limited by what actual pictures you have. You can type those messages or use those word boards to put sentences together. You can use direct selection, eye gaze or partner assisted scanning. So it can be used in many different ways. And this on is a big one. Can provide a backup system for device users, so just because our kids have moved on, maybe to a higher tech device, something that I'm always stressing is as important as that is, it is equally important to have a backup system. What happens when as we know, technology fails us? Battery problems or whatever it might be we don't wanna then be stuck without our kids to have a way to communicate. We hopefully, we've kept up those skills using the lower tech options so
that they have something to fall back on. And then obviously there’s pre-made boards that you can find and then you can create books with printed screens from a user’s device. I’ve done this before as well. And again it goes back to that backup system so that they have a lower tech system of these screenshots of what they use in their high tech system, so it’s very familiar and again, they can use it across environments. Picture schedules as we know are huge in our schools. Especially with our individuals who have autism. I mean this is something that really helps them get through the day, it helps to maintain that structure so that they know, so they’re not left wondering what is next? Or when is this gonna end? Which is a big one.

Can we use pictures or words for that? Picture symbols help to clearly define our daily routine and again, like I said, the big one, our expectations, there’s pre-made activities and templates that you can use. Can be low or high tech. You can use your basic picture symbols that you can print out and put on a board or again if you have a higher tech device user, it can be their, schedules can be on there. And then cross off or remove activities. I know how good it feels to cross off that to do list, so our kids feel the same kind of relief we do when they have been able to move that picture symbol that’s something that’s complete.

That is important as well. I’m sure most of us have heard of Picture Exchange Communication System, that is, we hear of the PEC System a lot. It’s used a lot with our individuals with autism. It does require quite a bit of training, it has a very strict teaching sequence. So and it’s supposed to be followed as such. But it is a great precursor for helping to teach the use of communication devices if we’re looking later to move to that higher tech. So that’s a very great system that a lot of people implement using too. But like I said, it is something that you have to be trained in to use as it’s intended. Partner assisted scanning, it’s a low tech practice for auditory scanning. It allows you to paste to individuals' needs, which is huge. So when you’re talking about partner assisted scanning, it’s all auditory, so you will offer the choices to
the individual first. So would you like ball, music, or read a book? And then what you do after that is you would cycle through those choices more slowly. And you need to pace to the individual need. I have a student now and partner assisted scanning is her go to method of communication and I've worked with my occupational therapist a lot on this and we figured out that her pace and her processing time is exactly 40 seconds and within that 40 seconds after you've offered those choices she cannot have verbal interruption, she cannot have tactile interruption, she needs that complete 40 seconds to be able to process through those choices. And it was interesting when we figured out that time.

We talked to the parents and they said that that was interesting that we said 40 seconds because I guess they're vision specialists said that visually, it takes her about 40 seconds to process as well, so it can be very precise. You just have to play around with it. So pacing to that individual's needs is huge. But you also have to be able to give them a way to react so that you can tell what choices they're making, whether it be a facial expression or a body movement. It doesn't just have to be switch activation to acknowledge the choice, you can take a device and program simply, like that's the one I want.

And when you've cycled through them at their pace, they can hit that device to tell you that's the one I want, but if that's too difficult or if they're having a day where physically it's a little bit more challenging, they can rely on those facial expressions or body movements to make choices. Be careful of the verbal prompting you offer and again, it goes back to that processing time. Sometimes, a speech therapist, we use too many words. Which is funny to say, but we do. Silence is a good thing, so we need to practice that. Voice output solutions, we've got single message devices, they're easy to program, they have that voice output, so that's great, they're easy to access and then you can access them in a variety of ways. This advantages anticipation of the communication needs in the situation and limited messages. It's reliant upon you to
figure out what message is appropriate for whatever the activity might be. And I won't go through all of these, but you can reference this later and come back and look at them, but these are some different examples of single message devices. Ideas and integration, using repetitive lines in stories. Program a repetitive line and then once you get to that line, give them a prompt that they can read that line themselves. Use two switches for answer choices. You can use it to initiate communication and to request assistance. That's a big one. I love when kids start to learn to initiate, so giving them a way a line to say my turn to talk, that they can do that. Hopefully, if you have those in your district that you can place and leave them in the classroom, so that it can be used in a variety of ways and by different people.

If need be, place an associated picture on that device, especially if you're using more than one, so if they know which device is programmed to say what. And again, encourage that initiation of communication not just always simply responding. We also have the sequenced message devices where you can record a sequence of messages. You might sing a song and do one line at a time and then every time they hit the switch, it goes to the next line. It's great for social situations. Maybe telling a knock-knock joke or something like that with peers.

And then here's a couple of examples, again, you can come back to this and look at those, but those are a couple of examples of ones that can be purchased that do sequencing. Here are some more ideas for using that in the classroom. You can tell a story, if you have a lot of my teachers have a share what you did this weekend, share a story. And so you can have parents send in information about what that child did and record a story, step by step on a device and have them share that with the class. Maybe it's just a simple hello as you're walking through the hallways. That they're talking to some of the students. Interview their peers. Ask them questions. And then there's some randomized devices out there too where you hit the switch and it can do different things at random. Choosing colors, rolling dice, playing games. And then we
have the two to eight message devices as well. It allows for more choice making. Again, it still does limit the vocabulary, but obviously an eight message device is gonna allow for more options than a single message device if that child has the ability to access a device that has more messages. Again, some ideas of integrating it. Again, writing lines in a story, sequencing activities. So a lot of the things that you can do with the sequence single button devices, but again it allows for more vocabulary choice making, obviously is a great one. Always if you can, again, it helps with that independence to be able to give choices. Challenges in the classroom, resistance by team members, that's a big one.

But a lot of resistance come from the next two. Lack of education and training. If they don't feel comfortable with using it, they probably will not use that. Inaccessible in the environment, maybe it's just not easily to be accessed in the classroom or whatever environment they might be in. Lack of funding, a huge one in our districts a lot of time. If we don't have that available and there's a lack of funding to be able to get those. Therapists and time, that's a big one, we all know that a lot of districts, we struggle with our caseloads being gigantic. And it takes a lot of time for programming these communication devices, so that's a big consideration as well.

Biggest reasons for failure, lack of support maybe from the family and from the team. Device does not significantly improve expressive communication. Sometimes it just doesn't work. Devices are unreliable. That's a big one, so frustrating. When you have your session all planned or a great activity and reh reh, your device is not working. Inappropriate device. So with the helpful hints as we talked about from the previous slide, lack of time as therapists is difficult, so contact your local colleges and universities and see if they have any programs for volunteer work or your high schoolers that require community service hours. Perhaps, there's something that they can do to help put together some systems of picture symbols and organizations and that kind of thing that will free up some of your time. And then sharing websites. Those
are great. We always say don’t re-invent the wheel. There’s so much out there on sharing websites that’s already made. And especially right now, there’s a lot of things that typically you would have to pay for that are free in this remote learning environment that we’re in currently, so take advantage of that. And then funding sources, I’m not, like I was saying, I’m not in the funding world as much as I used to be, but some of these are Medicaid, Medicare, things that you can do if you’re looking for, a child is looking to get something for their personal use and their private insurance. Look at community resources. Nonprofit funding. Perhaps, your school has some funding resources that could be used for some of these devices and things that could be beneficial to use for the whole school. So grants, there’s always grants available as well. I mean, grants take a little bit of time to do, but it is well worth it. So I think that brings us to the end here. There are some of the website resources I’ve included of some of the devices that were mentioned earlier. If you wanted to go back and look through some of those, that’s available. So Amy, I’ll come back to you. Do we wanna do any questions?

- [Amy] Absolutely, let’s see what some of the questions are. You know what before we get into some of the overall questions I have a feeling with the recording stopping there are a couple people asking if you could go back to switch activation, please.

- [Kristy] Okay.

- [Amy] If you could describe that. Thanks.

- [Kristy] Sure. Is it this one, the cause and effect activities or...

- [Amy] I think it’s the um... Go ahead, let’s see. I’m gonna advance for just a moment. About here.
- [Kristy] This one?

- [Amy] Yeah.

- [Kristy] Okay, so these are just some activity suggestions for practicing that you can use just with your single switch. There's all kinds of computer activities that are available. Powerlink is an oldie, but goodie, it allows you to plug maybe a blender or a fan, or if you're lucky enough to have one of those, what we call an old school tape player. It won't work with a CD player, but it will work with a tape player. But you can plug those in and also plug in your switch and that will turn those things on and off. So it's a great cause/effect activity with things that are used in our environment. Switch adapted camera, same thing, you can plug, it has a place to plug in the switch and they can just hit the switch and take their own pictures. Spin Art activities and Adapted Pourer. In a lot of our classrooms we do some fun cooking activities and so a great way to include some of our kiddos that have some more physical challenges is to use the Pourer, again it has a little cup and when you hit the switch and pour the contents in automatically. A good one too is our switch adapted scissors. Our OTs live this because they love to use their scissor skills, but if they have physically that's not an option, they can still participate by using those switch adapted scissors. So those are just some different kinds of fun cause/effect activities for our kids to use with their switches.

- [Amy] Okay, great, thank you.

- [Kristy] Sure.

- [Amy] And what kinds of things do you add to pictures to make them tactile and related to the picture?
- [Kristy] Okay, sure. So I have used, so I'll take a, this is the first thing that popped into my mind with some... I did a book, so we're all familiar with Brown Bear, Brown Bear, okay? And so using the animal pictures. So for the bear and you can even do this directly on the book if you don't want to do the symbols, but for the bear I added just a little patch of fur. For the bird, I added a little feather. I've done other things, activities where I've made it, depending on what it was where it has a piece of Velcro on the top of it where it's scratchy and it might represent sand. So again, it's that thinking outside of the box. So if we're talking about something soft, you can add a piece, a cotton ball and talk about that. It just gives an association between that symbol and the vocabulary. So then if you've introduced that a few times and then you start to ask questions, they can feel through those picture symbols and try to recall that feeling that they had when they found the symbol that they're looking for. I hope that makes sense.

- [Amy] Okay, thank you. What was meant by poor understanding of rights in the classroom?

- [Kristy] Oh, okay, so sorry, I was trying to be mindful of time there, so I skipped over a couple of those. So that is meant to think about our families. Sometimes they're not aware of the rights that they have with their school district. So if we are, I mean our job is to, especially speech therapists, our job is to make sure that our kids have access to whatever they need for their education. And I'm by no means trying to have anyone battle it out with their districts, but if you're getting pushed back from a district about getting something that a kiddo needs to be able to thrive in the classroom, a lot of times, our families, if they do know their rights, then they can help be advocates for their children to be able to get what they need for their education. So I think it's important. A lot of times we just hand over that form that we have to that explains their rights, but I don't know that anybody really sits a night and goes through it with a fine tooth comb, so it's just making sure our parents are knowledgeable of being great advocates for their kids.
- [Amy] All right, we’ll take just a couple more questions. This next one is in regards to switch activities, can you explain what switch activities they’re best used to teach what?

- [Kristy] Well if we’re talking about switch activity, so it depends on, I’m not sure I know exactly what is meant by that question. If we’re talking about some of our younger kids and we’re talking about cause/effect, there’s a lot of switch activities out there that go towards cause/effect. Switch activities again, well I guess this goes back to cause/effect, but we talked about kids learning to be, kids need to be motivated to use augmentative communication, so using switches for highly rewarding activities. Again, it can be as simple as requesting more. If you just simply used a switch that had that recorded on it, it’s a great activity just to be able to request. Simple, yeah, just simple requests. More or done. Done is a huge one. I’m finished with this, leave me alone. So again, I’m not exactly sure what she was referring to in the presentation, but I think cause/effect is a great one for switch activation.

- [Amy] Okay, thank you. And then we’ll take just this last one. Had a couple questions asking which low tech option promotes the creation of novel messages the best?

- [Kristy] Well, I would, for low tech options, I think it would be, again, it depends on your literacy skills, but alphabet boards that would and word boards, maybe a combination of the two. Maybe has words on it. I think there might’ve been a picture on that one, I can’t remember, that combination of your core words mixed with a keyboard where if they’re able to direct select where they can point and put sentences together using those. I think that for a low tech option is gonna be your best bet as long as they have those literacy skills to be able to spell and combine words into sentences.
- [Amy] Okay, great. Thank you for that explanation. All right, so we're gonna go ahead and wrap it up there. We appreciate everybody's patience and Kristy, your as well as we got you back into the classroom, not sure what happened there, but thanks for just popping back in and finishing up with us.

- [Kristy] No problem.

- [Amy] And thank you for sharing your expertise, we really appreciate you joining us today and learning some really great information from you. Thank you to all of our participants for joining us, we really appreciate your time and look forward to seeing everyone again soon. Take care everyone.