

- [Host] All right.

- Hi there, welcome.

Today I'm gonna be presenting about Tangible Symbols.

Specifically we're gonna be talking about an introduction to what tangible symbols are and discussing functional use across settings.

So thank you for joining us today and welcome.

A little bit about me.

My name is Emily Macklin.

I work as a speech language pathologist with deaf-blind individuals of school age.

So that ranges from three to 22 years old.

I'm passionate about working with individuals with complex communication profiles and I really enjoy being creative with assistive tech and AAC specifically to provide access to communication.

Just off the bat, some disclosures for this presentation include financial disclosures.

So I receive a speaking fee for presenting from AbleNet, and I am a salaried employee of Perkins School for the Blind.

And in terms of non-financial disclosures, I do not have any relevant non-financial relationships to disclose.

So from today's presentation, what I'm hoping you take out of this is to learn some foundational basics and terminology associated with tangible symbols, to learn what they are and who may benefit from them, to review considerations when making tangible symbols.

I wanna kind of support you starting your brainstorm with this.

Discuss how to implement these symbols and promote functional communication across settings and to understand how you can support communication using AAC supports such as tangible symbols.

So just to start with some basics, I wanna be on the same page around terminology.

We won't spend too much time on this since you've found yourself to the AbleNet webinar.

I'm hoping some of this is review, but if not, I just wanna be on the same page.

So what is AAC? This refers to augmentative and alternative communication.

It's always besides speech that people use to communicate and you can read more about that on ASHA.

Also, I'll have different citations linked throughout the presentation at the end as well as on the handout.

All of them will be listed in links so you can check out all the citations.

Some examples of AAC are high tech systems like dedicated devices and iPads with communication apps, sign language, written language, switches, body language, and facial expressions.

There's a lot more that's just kind of a small sampling.

So it's important to clarify what is a symbol.

So that might seem basic or kind of like an interesting way to start off.

But a symbol is just something that stands for something else.

So what is represented is referred to, what it is representing is called the referent.

And a symbol can look a lot of different ways.

So a symbol can be a written word like S,T,O,P, the written word stop.

The sign STOP in ASL.

A STOP sign is a really well-known community symbol that a lot of people will recognize, but also could be symbolized in a line drawing.

So all of those are symbols that are widely recognized for the term STOP.

Just to kind of get our feet on the ground.

A symbol can look a lot of different ways.

And throughout the presentation you'll hear me refer to tangible symbols, tactile symbols.

Sometimes you'll see tangible visual symbols.

They're all referring to the same thing for the purpose of this presentation, they're coined by different researchers, but they are synonymous for the purpose of this presentation.

So tangible, tactile symbol, same thing.

The school I work at utilizes a total communication approach to language.

So I just wanna talk a little bit about that 'cause that will come up throughout the presentation as well.

So total communication is kind of an all hands on deck approach to language.

It's inclusive and flexible for language learning and use and incorporates all means of communication.

So we're speaking verbally while we're signing in air and also tactfully.

So tactile sign language, doing ASL within to an individual's hands using hand under hand, natural gestures, finger spelling, body language, printed text, braille, tangible symbols, which we're talking about.

And that can look like whole objects, partial objects, or smaller kind of tactile, tangible symbols. Picture symbols, AAC devices, and more.

And with that the goal is just to optimize language development.

Whatever way is effective for the individual.

So it's more of philosophy than a methodology.

Total communication within a given classroom will look different for each individual student.

It's based on what they need and how we can kind of bring them language access in whatever way suits them.

We're gonna talk a little bit about this today as well.

So core and fringe vocabulary, core words or core vocabulary refer to high frequency vocabulary.

They're relatively a small number of words that make up the vast majority of what's communicated day to day.

They're typically consistent from one person to another across ages, environments, and activities.

And appropriate use of core vocabulary is essential to effective communication.

Whereas fringe vocabulary are more extended vocabulary words.

They are used much less frequently, and they make up a small remaining portion of what's communicated daily.

They're often highly specific to an individual, an individual environment, or a specific activity.

So total communication and effective communication in general requires both the use of core and fringe vocabulary.

So AAC systems that are available today are largely visually based.

With that, it begs the question, what if vision is not accessible? What if you're a completely blind, or have low vision, or CVI? We might need to look in other directions taxing the visual system less or not at all.

So that's why we're here today to explore this as an option.

So what is a tangible symbol? A tangible or tactile representation of an object, person, activity, event, concept, or more that is used for expressive and receptive communication.

We're gonna look into some examples of it used expressively and receptively.

I have some photo examples here.

So on the left side you'll see a small book with a braille label under it that's backed onto a symbol backing, small book representing read.

We have some different control words, core and fringe words in the middle image, more and finish up at the top.

Those green symbols in the middle row are verbs.

So we have open and close, a stop sign.

That's the symbol for a stop and turn that is actually something mounted that handle actually turns.

I have a few examples of feeling symbols, so happy and sad.

That sad is that small tissue packet and happy is kind of that string that's glued on.

And then we have some different favorite toys of students I work with.

So that's kind of a collection of different symbols I've used that's not from one particular symbol set.

Just some examples of how variable these symbols can be and for different communicative functions and purposes.

And on the right you'll see an embedded cup that's a symbol for I want something to drink.

That cup is partially embedded into the symbol.

So that's an option.

There can be some embedding or you can kind of mount or glue an item or object right to the top.

So we'll talk about that and kind of pros and cons of it all.

Who may use tangible symbols? That's not an easy question.

That's not one size fits all.

You might wanna consider this type of support for individuals with MDVI, multiple disabilities, including visual impairment who may have difficulty communicating, using verbal speech or other systems such as sign language.

Also consider individuals with developmental delays or disabilities, intellectual disabilities, sensory and or visual disabilities including deaf blindness, blindness and low vision, CVI.

To talk a little bit more about deaf blindness, if that's not a term you are familiar with, deaf blindness occurs on a spectrum.

So the individuals I currently work with are deaf-blind.

And that means they can have absolutely no hearing and no vision, or they can fall anywhere on a spectrum of mild impairment hearing and vision all the way to no access, auditorily or visually.

So it's completely a spectrum just to point that out if that's a newer term to you.

Also, learners who benefit from a multi-sensory approach to language learning and who have difficulty with one-to-one correspondence between a widely available symbol, so such as the spoken or sign word stop and it's reference, just that example we gave before.

Why are they beneficial? So tangible symbols do not rely on strong visual acuity or perception and do not place high demands on the user's cognition or memory due to factors like iconicity or how concrete a symbol is.

Their permanence, so symbols will not change between uses.

They can be identified tactually by touch in isolation or in combination with other senses.

They're manipulable.

So the learner can pick them up, explore them, and hand them to a communication partner.

And choices and selections can be indicated through a simple motor response like tapping, pointing, directed eye gaze, et cetera.

So if there's motor impairments you're working with, that's also something that this might be a beneficial support for that user.

What I think is really important to drive home is that as you're tactually scanning, tactile or tangible symbols, it's actually taxing the recognition, cognitive skill rather than recall.

So that is a huge benefit.

You're tactually scanning, I recognize this, I recognize that.

Okay, and I want this rather than having to kind of generate and recall each time.

So for some individuals this can be, it could be a first step, it could be a really beneficial support long-term.

And that is a difference.

So let's talk a little bit about iconicity or how concrete something is.

You can have whole objects, partial objects, or what I typically refer to as a tangible or tactile symbol, which is a bit smaller and mounted.

This is an example, a photo example of a Light Up spinner.

So these are a huge hit for some students I work with.

A full whole object symbol would be the, you know, likely a not working an old one that we can kind of designate for a whole object symbol.

The spinner itself, a partial object will likely kind of take some features of this, the spinner and mount it.

It will be a little bit smaller, a little bit more portable in that way.

And then from there you might be able to kind of shrink size down even more to just a part of the actual object.

I just wanna note that on that Light Up spinner itself, where we got to the smallest representation, I kept that button, so the button turns the Light Up spinner on or off, that for this student I made this for was a really salient part of this symbol.

So he really enjoyed turning the Light Up spinner on and off himself.

So this was a part of the symbol that was really concrete to him.

That can be different for any individual.

So you're gonna really take their profile and let that guide what the symbols look like.

Some trade-offs with this are how concrete the representation is versus the size, the weight, how bulky it is and its portability.

So the whole object symbol is extremely concrete, but what it also is, is heavier and less portable.

On its own, it's not overly heavy or bulky, but if you think about whole object communication systems, that is more challenging to kind of travel throughout the community and have functional use across settings.

And what we really wanna do is generalize these skills into other settings.

So it's completely fine.

There's no value one over the other.

It's really what fits the user the best.

Just some things to think about kind of as you're brainstorming where you are and where you maybe hope to be in a few steps.

If you like to think a few steps ahead too.

So why use tangible symbols? To increase independent communication skills and support the transition from symbolic, pre-symbolic to symbolic communication, to access the curriculum, to create calendar systems and activity schedules, to develop time concepts and sequencing skills. These are just a few examples of why these supports are beneficial and we're gonna talk about these in more detail.

So some receptive language supports that tangible symbols can support.

So use in a student's schedule or calendar system.

That's a pretty big term in deaf blind education.

So these will support transitions and anticipation of what's to come and increase independence within routines.

So we have some photos of a book-based calendar system with a small Elmer's blue bottle and then a small beanbag that's showing it's art time and then it's relaxed time on the beanbag for one student.

So that's an example for them to figure out this is what I have now and what's next to come.

They can continue to flip the page to see what their whole day will be like and it's a way to bring them that language access in a way that's meaningful and accessible to them.

Another way this might be laid out is whole object symbols like we talked about before.

You'll see three different boxes with whole objects velcroed onto them.

There's a small board book, so reading time, then there's a squishy spiky sensory ball in the middle that represents occupational therapy.

And then there is a bottle which represents its time to eat if the student receives nutrition via bottle.

So that is a really concrete symbol for them specifically, for others that may look like a spoon or the bowl they actually eat out of, if they're tube fed, it might be you know, a little G-tube extender.

So you're gonna wanna take the individual's profile into consideration when developing these. And these are just some examples.

So a little bit more about a whole object schedule.

Here's an example of a student with that same three board what's to come? So first is a trip to the bathroom, then time for art, and then eat.

What I really like about this one is there's a little light shining over the first box.

This is giving some exposure to the concept of going left to right, which will relay to literacy gains later on setting that foundation.

Right now it's bathroom, then when bathroom's done, you'll put that into a finished bucket likely, or sign finished art will move over.

It's time for art.

So the light is shining on the one it's time for giving that visual cue once again if accessible.

So when you're working with individuals with dual sensory impairment, you need to consider kind of where they're at on the sensory sensory spectrum.

But there's ways to kind of match their strengths to systems like this.

Be really mindful of it.

So here's again that book of it's art, you know, time for art and then we'll relax.

So it could be book-based or the boards can expand beyond whole objects and three at a time.

This is a look on the right photo, is a look at a student's full day.

So it says today is Friday.

We'll talk a little bit about what those blue symbols are that are noting the day of the week.

We'll talk more about that in detail then it's the student's entire day laid out in tactile symbols.

So he's gonna make his schedule, he is gonna do some desk work, he's got a special activity, et cetera, et cetera.

He is learning to go from left to right to go through his day and he's co-creating his schedule with a staff member in the morning.

That's giving him the anticipation of what's to come.

So if there's a class he's not too keen on, he has a reminder from early on in the day that this class will be happening today, can kind of mentally prepare.

No one likes to be surprised with especially things that are not their favorite or less preferred.

We've seen this help so much of just anticipation, getting ready and then seeing what really fun classes are after, for example.

And this student was really supported also by wearing an ID badge and walking around the school when he headed to the class he was going to, he walked around with an ID badge with some Velcro and the actual symbol of the one he was going to.

So where it, there's that tennis ball that's a adapted physical education, that's his gym class.

So he would also walk around with identical copy, get to the gym, be prompted to feel up gym symbol.

Now we're doing gym.

Awesome, just a reminder.

So if he's in transition and like, "Hey, where am I headed?" He also on his own body is kind of able to access a reminder in that way, which we found to be very powerful for him.

Just some things to think about.

First, then supports this can also be relayed to tactually, so this is an example with another student I use that we were gonna go into the car and then after, the car ride was to Starbucks.

So we were going to the car and then Starbucks.

Starbucks was highly, highly preferred 'cause this student loves a pink drink.

So we would use first then supports, then Starbucks and then back to schools for example.

So I'd keep kind of some other symbols on the back of that board ready to go, but being really concrete of we're doing this.

And then that helped the student a tremendous amount and this would also be reflected in her daily schedule.

Just as a reminder, this was really powerful.

Let's talk a little bit about expressive language now.

So what I wanna be careful with is that tactile or tangible symbols are not just for choice making.

They absolutely can be extremely powerful for choice making, but they're not just for choice making.

So we wanna make sure that we're empowering our learner to do more than choice making or requesting.

We wanna support those skills of course, but we also wanna support them gaining other communicative functions like controlling their environment and directing others, telling us if they want more finished kind of learning those basic control signs, expanding their language, requesting assistance, including medical needs, commenting, and many more.

So we don't wanna get stuck at just choice making.

It is extremely important but it's not everything.

And I've given some photo examples of this as well.

So on the left photo you'll see a little bit of a strap that's actually a symbol for walk because every time that student goes on a walk, he carries around a backpack with him that has some medications that need to travel with him and other pressing personal items.

So that is his symbol for walk.

'Cause every time he walks he uses his backpack.

Then he has a few different choices, a yellow square and a Light Up spinner.

The yellow square is for a preferred toy that he likes to engage with and then the Light Up spinner.

So that's a choice making example.

So I put three out and I was like, which do you want? Once again using the total communication approach of speaking and signing, repeat, accept, tactile sign and sign into his hands asking which do you want? And then to actually guiding him to the choices.

The middle photo has an example of some control signs more and finished, and then some medical needs and necessities.

So a symbol for bathroom which has a small portion of a pull up as well as the top band from a pair of underwear.

A student is going through some bathroom training and kind of experiencing both of these.

So that's something that we added both of them to the symbol.

And then an inhaler.

Really, really important that he deeply understands the symbol for inhaler because he can now let us know when he needs help via inhaler, when breathing's becoming labored and he could use this.

So that was really important.

Well we're actually gonna talk a little bit more about that in a bit.

And the right photo is an example of finished with lotion.

So X representing finish.

What these symbols are is arbitrary as long as you're consistent.

Once they're made and exposed, you're all set.

We're gonna talk about that some more.

But finished with lotion, pairing the activity, it's finished, you're signing and saying it finished.

And then modeling use of the symbols as well.

When you make a tactile symbol, it's important to consider what is the most salient part of the reference, what's being symbolized.

Now, not just what's the most important part of the referent, but what's the most important part of it to that individual learner.

So a really important part of something being symbolized could look completely different for two students in the same classroom if they interact with that object differently.

So it's really important to have a strong relationship and rapport with the student you're working with and understand how they use the objects they are engaging with in order to symbolize them most concretely.

An example for Play-Doh lid.

So someone who likes to use Play-Doh is kind of some sensory player activity.

If they're someone who takes the Play-Doh lid off and then engages with Play-Doh, a Play-Doh lid might be an excellent idea for a symbol to represent the activity of Play-Doh.

Now if there's someone who is not motorically able to take the lid off of the container but they still love Play-Doh, you might think about actually some real Play-Doh mounted and then figuring out how to preserve kind of the squishyness or maybe a a similar squishy substance that would be more salient to that user.

So that's something to think about.

Stacker rings, I have some students who work on the concepts of on and off using stacker rings and they quite enjoy them.

Very concrete, beginning, middle, and end something they like.

And great exposure to core concepts.

So for Stacker rings, this example I put up because I learned throughout doing this that I had one stacker ring, just one circle on a symbol and I tried that and it was a real stacker ring.

I had a incomplete set.

Pro-tip is to hold onto things when they break or you lose some pieces 'cause they make for excellent, really concrete symbols 'cause they're from the game themself.

But I had one ring on and I was kind of thinking to myself, this doesn't really seem right, it had a piece of the game but it still didn't seem to reflect the stacker ring or the activity as much as I was hoping.

So what I did was I added another ring on.

So that actually completely supported my student where the first one, she never really experienced a stacker ring, one ring in isolation.

They were always kind of in context of being built up.

So this really helped her 'cause then she was like, "Oh it's the on and off activity", and able to figure that one out a lot easier.

So what we want to do is make communication easy, motivating, and fun whenever we can.

This is something to think about.

So if we can support our learner in ways like this, with a little bit more of a brainstorm, then go for it.



And that's what I'm kind of hoping to bring throughout this presentation.

Another example is for the game of Connect Four, I actually used a real chip from a Connect Four.

Just another reminder to kind of hold on to old things before you toss them.

If you've lost pieces or they broke it, it could come in handy later on.

That being said, I'd like to offer a word of caution to be careful with miniatures.

So miniatures have a lot of inherent visual bias to them.

And an example I'll give to kind of explain that is, if you were to have one of these self-propelled driving cars that could either be controlled via some basic controls in the car or a remote that your student absolutely loves, you might think to yourself, "Yes, a matchbox car is so small I can easily mount that.

Yes, got it." However, if you're accessing the experience of being in one of these cars without vision or with limited vision, a matchbox car likely doesn't represent that activity well for you. So you really need to do your best to put yourself in the individual's shoes that you're making the symbol for.

So would they necessarily match a matchbox car, one of those small toy cars with the activity of something that they're driving? Maybe, maybe not.

So that's something that you might wanna trial and error, but I just say be careful with miniatures because what might seem like really a strong association to someone with full access to vision might not be the same with some sensory impairments.

So an example for a student I did who has this car at home and it's one of her favorite activities, I thought about what she's actually experiencing while she's in this car and what she's holding onto is the wheel.

So her parents are supporting her by remote controlling the car which she's holding onto that wheel.

So what I did is I used a bent piece of PVC pipe.

Now this student is accessing with a little bit of vision, not strong visual acuity, but kind of gross colors are perceived.

So I did add some pink in the background of the part of the PVC pipe to offer a little bit of a color cue in the background.

'Cause as she's holding the wheel, she is perceiving the overall color of the item that she's in.

So kind of just to support comprehension using her profile to guide what the symbol looked like.

A little bit more about how that symbol came to be.

Like I said, I used a piece of PVC pipe that actually an engineering colleague helped me out who had some nice strong tools, and was able to bend that nicely.

These symbols don't have to be overly fancy and expensive, but I'd really like that point to be driven.

I saw at Home Depot when I was kind of in the brainstorm phase to symbolize this object, for 70 cents there's APVC pipe, like small part of a PVC pipe.

And if you painted that with a little bit of non-toxic paint, I'd just say non-toxic, be careful.

'Cause if the user is exploring their symbols orally, you just wanna be really careful with the materials we're using.

One careful of choking hazards and to, if paint or any materials are toxic, we wanna steer clear.

So a little bit of non-toxic paint and creativity with household or construction materials can go a really long way.

And these do not have to be overly expensive by any means.

So here we'll see an example for a cooking activity of a whisk.

So this is something that can be used in sequencing.

So we're gonna pour the egg, mix in, and then we're gonna whisk it.

We're gonna mix it all together.

Once again, you might think "Yes, a small whisk.

They make those really small whisks, now those are so cute, those are awesome, perfect." But a word of caution, yes, they exist, they're really pretty cute and they are widely accessible.

You know, where you can kind of pick them up at numerous different drug stores or dollar stores.

But instead, that small whisk might not feel like the real whisk that you're using in the cooking activity.

So I'd recommend you to consider cutting off the handle of a real full-sized whisk and gluing it to a backing if the student is kind of whisking by holding the handle.

Just another example, if they're more kind of exploratory on the more open side, I would think about a way to symbolize that maybe kind of bunch cut it, bunch some of them together, place it on a backing.

Something to think about.

So just because a miniature version of this item exists, awesome, be careful.

It could work and you'll have to kind of consider the individual profile of the student, but I just would be careful 'cause we're considering a lot of visual bias with that.

So let's take a moment to brainstorm.

Now, after one holiday season, several of my students got these as holiday gifts.

They're a self-propelling bumper car of sorts that they were absolutely loving at home.

So their families were looking for a way that at home they can indicate that's what they wanted to play.

That's what they wanted to engage with.

So that kind of started off my brainstorm and I hope we can kind of go through this together.

Now we have the bumper car itself is what we're working with.

It's too big, you can sit on it.

It's too big to be in whole object symbol.

It would be quite hard to hold up that and maybe two other whole objects symbols at once.

It would take up quite a lot of room and arm space.

So we need to think of a way to symbolize it.

Now for my student, one of my students who got these, she's sitting in it holding on to the self-propelling steering apparatus of sorts here.

So she's holding onto that, this toggle switch moves it back and forth.

That's what she's holding onto, awesome.

So I took that and ran with it 'cause that's what her hand tactually she's experiencing.

The reference is the bumper car.

And then there's the symbol I came up with.

You can be really creative and get an old part toggle part of an old video game.

You can look on eBay.

Once again, these things do not have to be expensive, but by mounting that up, if I mounted it on the side, it didn't really feel like her experience, because it being mounted, her experience is being able to fully grasp this toggle.

So what we did was mount it upright and she's able to grasp it.

It's a lot more portable than the whole object.

And she's able to kind of more abstractly talk about her bumper car in other settings rather than just when she's in it.

So it's important to pair the symbols with the reference repeatedly.

And I can't emphasize enough how much repeatedly can represent here, so much.

So guide the individual's hand from the reference to the symbol and back the symbol to the reference.

Narrate what's similar about them discussing why the symbol was made for this, pair use of the symbol to represent the referent over, and over, and over, and over in meaningful and natural context that will lead to a deep understanding of the symbols.

So with this I just want you to consider a fully cited and hearing child is incidentally getting a lot of access to spoken words and perhaps signed words throughout their day over and over where the context of where they heard the word car, then they're going to a car, they're playing with toy cars over and over, they're having access to kind of map what the spoken word is with its meaning.

When you consider someone with dual sensory impairment, you have to think about limited access to incidental learning and kind of how you're gonna engage them with the learning.

So you need to really, really, really be mindful of how much you need to model.

And I would just model by showing the symbol, what it's representing.

Oh there it is, there's the symbol.

This represents this.

And talk to them about what's similar.

Now if you can also, I'd really consider engaging the learner with creation of the symbols themselves.

Be careful with things like, you know, if you're embedding them or connecting the backing to the object with something like hot glue, obviously be careful because we don't want anyone to get burned.

But if there's an opportunity for the student to have a say of what their symbol is, that is excellent and perfect, that's awesome.

I would highly recommend that.

Just obviously consider some different safety considerations about like hot glue, hot materials if you're using tools to combine or embed symbols, be careful.

But that would be absolutely excellent 'cause how meaningful is that if they got to choose the symbol that's used in their communication system.

That's excellent.

Some photo examples of pair, pair, pair pairing the symbol with the meaning.

So that's an example in physical therapy, students are having some either floor time or they have the option to go into this, self-driven car that's switch activated.

So there's an example of kind of steering wheel or the floor mat.

They can have positioning options and their physical therapist can take it from there. Once the student has made their choice about kind of what position they would feel most comfortable in.

So the floor mat symbol is actually like a lateral support from an old chair and it feels just like the floor mats.

So that obviously they have different colors.

Not as much of a barrier if the student's asking without vision and if not, you're just gonna be really, really mindful about what you've got going.

I wanna speed it up just a little bit, but I wanna talk about building language with tactile symbols.

So we can have carrier phrases and sentence starters and I want you to model use across settings and as often as possible.

These symbols can be combined with multiple modes.

So this is a tactile connections kit by American Printing House For The Blind.

What's nice about APH is that often you can utilize the federal quota to help support purchasing some of these items.

I like these symbol backings because each part of speech or type of word has its own color and then also shape at the top.

So some of them are more pointed, some are more scalloped, some of them are flat.

I really like that 'cause it's giving access to the difference between a verb, and a noun, and kind of more expansion words like that you might see just during lessons like the weather, feelings can be symbolized differently.

And I really like that 'cause it's giving a lot of, it's supporting next steps without doing too much at once.

It's, I quite like this set.

And this will be linked also at the end.

So here's some examples of some sentence starters or carrier phrases that I had students then connect the symbol with the sentence starter tactually.

So I actually made the sentence starter, "I want", and then in our traditional way, I put out some tactile choices of preferred activity.

So my student chose iPad and put it onto his prox talker.

He was using a prox talker, this mid tech device paired with tactile symbols, which was really nice.

It gave some voice output to his tactile symbols so those around him could hear from far away what he was looking for.

And also he's getting the auditory mapping of the spoken word.

So, "I want" he put on iPad and then he's getting a lot, a lot of exposure to "want", is the carrier to something you might like, like a favorite toy.

Same for, "I go to the playground", it's a piece of fencing, that's the gate that he opens to get to the playground.

"Need inhaler", that's something I'm modeling all the time.

So when he's actually needing his inhaler, I'm having him feel his symbol.

And then you know, kind of after when you're in the moment of a medical emergency, I wouldn't push this as much, but as soon as you can for when the student calms down, I would

say, "Need inhaler", or "Inhaler finished." If there's more a routine inhaler administration, that's perfect opportunity.

Obviously be careful in the moment of a medical emergency, just take the student's needs into consideration.

But those real life experiences are in the most meaningful place to kind of expose this language.

And another example for "Go bathroom." So if he was indicating bathroom in a way of total communication, I would pair a "bathroom" with "go." "Go bathroom", go leads to a place.

Something I also really like is the talk core board.

You can find examples and kind of a blog post about this even on paths to literacy.

So this has both core and fringe vocabulary where you can build literacy skills while expanding communication skills.

I really like that the symbol locations are consistent.

So you might need to start with a reduced core board.

You might not start with everything at once.

Kind of the same philosophy we use with high tech devices with masking where you're hiding some symbols but the symbols that are there are gonna remain in that placement.

So things like motor memory and anticipation are supported because you're not relearning.

So if you have a kind of idea of the end goal core board, you don't have to then reinvent the wheel and kind of start over.

What you wanna do is support skills learned and then go from there.

Resources will be linked for this.

Something to think about.

Now print and braille exposure.

So I encourage you to work with your TVI to determine if print or braille will be more accessible and supportive as a written modality.

And if applicable, please label the symbols.

So if you braille, prompt the individual to guide their finger over the braille while exploring the symbol.

The print awareness sets a foundation for emerging readers.

So work with your TBI to see what's the most accessible learning media.

And then even if they're not in terms of their literacy development at that stage yet, they're an emerging reader, it's awesome to give them that exposure that here's your symbol for car and this is the word car.

This says, "car".

Excellent exposure can support long-term gains.

Now let's talk a little bit about creating a symbol rich environment.

I'll have some examples within the home in this part of the presentation.

Want you to consider if a spoken, signed, or visual symbol is not available or accessible for creating a language rich environment, we need to brainstorm how else we can do it.

All symbols are abstract until we build meaning with our real life lived experience.

So here's some examples of kind of building meaning in real life examples.

So for a student of mine, she uses tactile symbols throughout her day, expressively and receptively.

And this is in her apartment.

So where she trails along her wall to find the entrance to a doorway, the placement of her hand, that's where we placed her symbol.

So that's how she knows what room she's going into.

I worked with her orientation and mobility specialist about this.

I encourage you to work closely with your OMS and your vision team for this.

So if the individual is navigating through the environment with trailing along the walls, place a symbol at the height they'll encounter naturally upon entering the room, boom, there's her symbol for bathroom, and she knows I'm entering the bathroom.

For her bedroom and her laundry room, they're actually one in the same.

So her washer and dryer are in the same room as her bed.

So this tactile marker of the room is actually kind of a descriptor of everything that can be found within the room.

So both her bed and her laundry machine, which we'll talk a little bit about that bubble wrap, bed and laundry machine are in this room.

That's her bedroom symbol.

It's kind of a descriptor of what's in there.

Similarly for kitchen.

The kitchen is where she does cooking, eating, also sorting different recyclables as a task she works on throughout her day and going into the community.

So she cooks, the can tab represents the cans that she's sorting.

And then the bottle cap is representing the bottles.

Those are two different recycle bins that are located within her kitchen as she works on recycling tasks as well as cooking and eating.

This is reflective of her experience in the kitchen.

This isn't necessarily what everyone does in the kitchen or everyone even with the same sensory profile would do in a kitchen.

So this is individualized to her and her experience.

Some context-based symbols I placed in her apartment.

So I had the opportunity to kind of create the symbol rich environment within the apartment labeling where her different clothing items are.

So shirts, underwear, bras, pants, socks are labeled with her tactile symbol.

I you know, gave a text label there too.

And then also within her pantry, her different snacks are labeled with tactile symbols.

So cups of cookies, bags of chips, and fruit cups.

What's important to note is that identical sets of the symbols are existing in the actual location.

And then also another set is available for on-the-go use.

So we don't just talk about bag of chips, we're in the pantry, they are labeled here, but she has another symbol for bag of chips to talk about.

I want to eat chips out in the community in her living room, telling her mom anything like that. She'll always have an identical set.

It's helpful to have them also in the real location.

For her swinging is something that's highly preferred.

So I took some excess fibers from the swing.

That's the real swing that's in her apartment.

If you notice it's a bit small in the photo, but where her hand actually was grasping for her to stabilize the chair and get in, that's where I put the symbol right next to that.

So she feels a lot of symbol exposure.

I'm in the chair, she knows the sensation and the feeling of her chair.

It's just pairing a symbol with it.

So then we can talk about it and she can request it and she can direct others and she can comment on it later on.

And here's an example in terms of some leisure choices.

So swinging, listening to music, putting on some lotion, or playing zingo, that's an example on a, that's a storage clipboard.

I had some vel text added to.

So the Velcro sticks really nicely to it and in that way she can choose what she wants to do.

She wants to swing awesome, when she gets to her swing, her symbol is there as well just further reinforcing.

I wanna think about how we can add symbols into functional routines in ADLs such as dressing, sorting clothing, laundry routines, grocery shopping, and mealtimes, and trips into the community.

So for clothing, similar to how all of her clothing symbols are labeled in the actual drawers, they exist as her clothes get dirty and she's undressing.

She sorts her clothing to support herself in her laundry routine.

So her shirts and pants, I have a symbol, identical symbol with zip ties attached.

That's where those will go.

And underwear and socks will go into another bin.

Zip tied on underwear and socks.

I'm using pieces of real clothing items from her that feel like her actual items that we're symbolizing.

So I encourage you to save old clothing for things like this and think carefully about what the texture is, what about this article of clothing does the individual interact with.

So for example, if the individual finds themselves kind of adjusting a bra strap often, I would say the strap of a bra might be a good part of the article to symbolize.

So I have a piece of the bra strap going into the actual material.

That was a concrete symbol for that individual student.

And then store the article you designate to cut up in a special location for future symbols.

So you wanna think about durability.

These symbols aren't always the most durable.

You kind of through practice learn tips and tricks, how to find better materials that might work better than others.

But regardless, what you don't wanna do is start from scratch.

So if you have a student who really learns their pant symbol but the pant material gets torn off, lost, disgustingly dirty of anything, what you wanna do is have the rest of that pants so you can cut another piece and put it on.

You don't wanna start over with something else.

When you learn of something, you wanna keep the ball rolling.

So when you consider with these functional routines, you wanna see can I give consistent exposure in the context of a routine? Can I pair it with a reference constantly? Am I doing that enough? Can I do it more? And did I take the individual's experience into account when the symbol was made? Now for something like laundry, here's an example of what we symbolize laundry with.

We have a large bubble wrap bubble that feels a lot like laundry detergent pods, which is what the student was using for her laundry routine.

She wasn't using liquid detergent, she was using the pods.

What I wanna note with that is I found it to symbolize really well.

Bubble wrap bubble, I wouldn't consider to be the most durable of materials.

What they are is inexpensive and not too challenging to find more of.

So what I ended up doing was putting a little bit of Velcro on the bubble itself and just some soft Velcro on the backing.

And I made like 40 extras of these laundry symbols so that her staff or her family could replace them as they popped.

And also as she knows, if she's the one who popped it and kind of felt the before and after over time she would learn the popped bubble still represents laundry.

So it's not the most durable, it was really concrete, got the ball rolling.

Just something to think about.

You often have to be quite creative with this.

Think once again, is it built into a routine? Is it paired constantly? And did you take the individual's experience into account? Same thing with food.

We talked a little bit about this already with her pantry symbols, tactile symbols kind of labeled. This is really important 'cause she can choose what meal she'd like.

But also there's some community implications with this.

Like tactiles shopping lists, we're gonna talk about that.

So if she felt that her bag of chips, she has it labeled, was getting empty or was completely empty, let's put the symbol on the tactile shopping list.

She needs to replace her bags of chips.

Her cookie cups were empty before, put the symbol on the shopping list.

And then the student quite loved bananas.

So we ended all shopping trips with getting a banana, a snack to go.

So what that did is give her some ownership of her own routine of the snacks she loves.

She's able to keep herself stocked in that way.

So we absolutely were able to build it into a routine.

We paired it with the reference constantly.

And as you're in the grocery store, you're grabbing the bag of chips, feeling the symbol, you're pairing it in the moment.

You're like, yes, the chips, you get home, you stop the chips, more exposure to the chips.

She's eating the chips, there's the symbol for chips again.

And did you take the individual's experience into account? First, then, first go to the police station.

This is when we were doing some community deliveries.



So the student would package some special kind of community treats, so maybe some water bottles and some snacks and we'd go deliver it in her local community to support her building some connections with some community members.

So we'd first go into the car and then to the police station.

This is just an example.

And then we'd go into the car, back to school.

And here are some examples of how we were pairing them in real life.

So I went ahead of time to the police station that is a community staple, a place kind of a mom and pop shop would be awesome to visit, but they're less likely to be there for the long haul.

So we are thinking of like places that will really be there.

We can get her to meet some different community members and kind of expand her social circle.

So I went ahead of time and I asked around of what signs would not be replaced.

This was identified as one of them.

This was identified as one of them.

So I took the P-O-L, I brought her hand over, I had her feel it and explore it.

Then with her delivery symbol, it was a bag.

She packaged up a bag.

So the text is really for the partner and the symbol was more for her.

So she'd be like, "Okay, yep, I'm doing my community delivery." And then she would hand it over to her partner.

So this was just a way to kind of have some meaningful work within her community and build more relationships.

Same thing with Starbucks.

We gave the information printed that she needs for the staff worker to put all the information into the computer.

She wants the pink drink, that's her Starbucks symbol.

She hands that over, excellent.

These are examples of community places.

Her gym, the police station, Starbucks, the library which she did a lot of work at throughout her time at school.

When I think about things that are in my toolbox, always a hot glue gun and extra glue sticks.

Veltex is a soft material that Velcro sticks to excellent.

Velcro and Velcro scissors so you don't ruin your scissors with the adhesive buildup.

Strong adhesive tape can go a really long way.

Symbol backing, zip ties, command strips with, I use a little bit more of zip ties and command strips.

For example, when I'm supporting a student in the home, when we're at school I can do a little bit more with Velcro and adhesive tape.

But I wanna be respectful also of the home.

Make sure my student has the access but also understanding that it's someone's home and bringing in the access in maybe a different way.

Hot glue is indeed your friend but be careful because too much hot glue can distract from the materials being symbolized.

In this way his strand of beads likely was pretty resistant to sticking on the backing over time. More and more glue was added.

Okay, maybe it stuck better but you need to consider did you lose the whole purpose of the symbol because can you really feel what it was representing? Just be careful.

A little bit more on symbol backings that we've talked about.

I check out the tactile connection kit from APH.

celtec is a symbol backing I use a lot.

It comes in different thicknesses and colors.

Project Core has some nice 3D printed symbols.

So I would check them out and see if you don't have to start from scratch.

They've got the braille, the printed symbol, and then some different shapes.

So I would look into that 'cause their 3D plans are printed, excuse me, are online for free.

Presentation boards like lamp boards, storage clipboards.

You want them portable if possible.

And they could be in the context of more of a bag or a book as well.

So just think about your learner.

Really briefly, tangible symbols can meet mid and high tech AAC.

So like we talked about with the prox talker, also the prox pad by Logan Tech.

They also can be on a go talk mid tech system.

And then you'll also see something new by attainment, the tactile talk toolkit has some tactile overlays, which is cool.

Resources to check out.

They are linked all in the references.

So these I recommend checking them out.

Project Core, Texas School for the Blind has a symbol directory.

The assistive device center at Perkins sometimes does for cost into the community.

They'll build some of these things that I showed today.

And what's important is to remember that this is gonna be a team approach.

So consult with the whole family, the SLP, teacher, the occupational therapist, your TBIs, your assistive tech specialists, your EI teams, and more.

This you gotta really understand the student and understand their needs in order to best support them.

So these can be, these can work for a variety of profiles.

Expose the learner to core infringe, keep it meaningful, think most salient, pair, pair, pair, embed new language concepts and routines so you can have a lot of consistent practice and exposure.

Keep it simple and use consistent language.

Add braille or print labels for awareness.

Get the team on board.

There's a lot of power in demonstrating and know that you can do this.

Yes you can do this.

Thank you so much for coming.

That's my email if you wanna reach out and connect or if you have questions.

And I have a few minutes for questions as well now, and the citations are there.

So take a look they're all in the handout.

Thank you guys.

- [Host] Emily, are you able to see the Q&A tool?

- I am, lemme take a look at that now.

Okay, excellent.

So I do have a few minutes.

I will answer as much of these as I can.

The first question is, you might address this later, but I'm curious as to how you decide what object will represent, what word is it a team approach, a vision recommendation, et cetera? So that is an excellent question.

I would work with the whole team and really get a good understanding of the student, build rapport with them and see kind of in our class what object they're interacting really consistently with.

They're interacting with a lot.

At a certain point you'll kind of have to pick one and go with it.

I would use a team approach and also consult with the TVI if you have a TVI on your team to kind of choose that.

But I would see what's really consistent about that activity and go with that.

You know, over time you, this might, kind of materials they use might change but you wanna be consistent with your symbol 'cause once they learn it, you don't wanna have to reinvent the wheel.

What is the clear material used with the first, then example? Okay, so wait, I'm gonna click Answer live.

Clear material used with the first then example.

Let me find which one you're asking about Lorna.

First, then example, I know you might have to actually chime in to make sure I answer the right one.

For here, the clear material with first, then, here is a key that represents car and then a green Starbucks straw, which is a real straw from Starbucks.

Lorna, if you're still on, if you wanna follow up with, if that is the right answer...

I know you said clear, so I'm not sure if that's the one.

I wanna make sure I answer correctly 'cause if you can be using something that worked for me, I'd love for you to.

I might have to have you chime back in Lorna if you don't mind to figure out which clear material we're talking about and I'm happy to answer.

Oh, that is it mounted key and straw, perfect.

Okay, yep, so that's an actual Starbucks straw.

It feels just like the straws we get when we're in there.

So it was key for the car and then go to Starbucks.

And Starbucks straw was it, perfect.

Is there anything additional you'd take consideration when writing goals for tactile symbol usage? Just off the bat that it's not just requesting, so I want it to be accessible, but I also wanna

look at a variety of communicative functions and how this can be embedded throughout the day.

So this will come into account with the whole team approach.

Can it be, you know, can these be embedded into consistent routines that happen in the classroom? This won't just be something hopefully that's used just in speech therapy.

You want really the student to be using this throughout their day.

So for writing goals, I'd wanna understand kind of linguistically and symbolically where they're at and then make it the goals.

A few steps above.

We wanna dream really big and we wanna keep expectations high.

And I write the goals just a slightly above where they're at of where we can get in a year.

Do you create two symbols for having them at home and school or they travel back and forth? Either way, I either have identical symbol sets that travel with them or they often have symbols that travel back and forth.

I have some students who have kind of like a storage clipboard where they can keep the pressing symbols upfront and then they know how to open it and find more.

I've seen some students use kind of a rolly backpack to carry their whole object symbol system or their partial object symbol system.

So what they're using at school, they're using then at home.

This is something that's kind of ongoing question of how to best figure it out but see what works for the family and go from there.

And you just wanna be really consistent.

So the most consistent way to get at that is to have a symbol at home and a symbol set at school.

Awesome, or they can travel with them if they're kind of portable.

Okay, so how do you make these symbols accessible to the student for easy access? Do you store them in all in one place? So I'd recommend to have both the context based symbols available.

So kind of how we're labeling the different articles of clothing.

We have them all labeled in the real location and then symbols also located elsewhere.

I like them all to be in a consistent location that could be kind of a, you know, Velcro strips of their symbols and they can tactually feel as long as they have access, all the symbols are also there.

Something like the Talk AAC board I really like because there's so much room for all the symbols to have the specific location as well.

So you can anticipate where they're gonna be.

I've seen this look a lot of different ways, but you do want the student to have consistent access to the whole range of their symbols.

And then also receptively, I do feel they benefit from the context based symbols too.

I'm just looking for that Talk AAC image to show that back up.

Once again, you might start with more of a reduced board and then kind of grow to a larger board as well.

Any recommendation for a student who is accessing with their feet versus their hands? It's a really good question.

I would work really closely with the OT and the PTs of the students' team.

You're gonna wanna get a sense of their tactile exploration, kind of get a sense of their ability to use their tactual skills and you wanna support them the best way you can.

So that might look like mounting it in a different way, positioning it in a different way.

That would definitely be a good example of an interdisciplinary team approach to figure out that motor access.

But you wanna make sure that they're able to kind of distinguish.

It's absolutely a possibility.

I would rely closely on my team members and work really closely together to make that happen.

Do you have core symbols for universal classroom vocabulary or are all symbols based on individual students access and understanding? So I'm a big fan of not reinventing the wheel when you don't need to.

So I like this kind of established systems like the Talk Core board, Texas School for the Blinds Dictionary.

If you buy the APH Tactile Connections kit you will see they have a whole book, a book full of examples of symbols that you can make.

I would like to use something that's already exist, kind of does develop a school-wide tactile language with the core symbols, since they're really not gonna be concrete, inherently, they're gonna be pretty abstract in that way.

So for something like to like, or don't like, or sad or happy, I'm really open to using something more universal.

So I recommend not starting from scratch in order to kind of build that consistency.

How awesome would it be if you have two tactile symbol users to share a tactile language? I feel like it's less isolating.

Now with that, the really fringe vocabulary is often where you see those high customizations.

So something like the bumper cars, the bumper car example is the student, you know, indicating the toggle that's highly customized to her experience.

So that can look really different for each individual.

I'd say for the core symbols it makes a lot of sense in my opinion, to use something more universal so we can be modeling really consistently, and then for those more fringe I would look more at the student's experience and access.

All right, I have another question.

Can we make general tactiles symbols general for the group in order to improve their social interactions between them? Not always between student and teacher? Absolutely, so that's from new end from Argentina we can absolutely make tactile symbols general enough in order to improve social interactions.

So kind of what we were saying before, you know, if a classroom or a school is using a universal tactile system for those core concepts, you have a lot more ability and a lot less reliance on the staff members to facilitate the interaction.

So I like it for that reason to have more general symbols for those core concepts and then for those really powerful fringe concepts I'd look more into individualizing them highly.

And then you can talk about, you know, why this student's symbol from iPad is, you know, it's the photo symbol with a piece of plastic over it.

'Cause he really, really likes looking through his photos.

That's really pressing about his iPad experience.

And for another student it's got an image of an angry bird 'cause he loves playing Angry Birds, something like that.

So then you can talk about kind of similarities, differences, foster social interaction in that way. But I think there's a lot of benefit for making some more general core words.

So you can look at some systems that are developed like the Talk Core Board.

Project Core has a lot, and Texas School for the Blind specifically I think have really strong examples of this.

Pulling them up, the tactile connections kit, stacks by American Printing House, those are embedded symbols.

Project Core, Texas School for the Blind directory.

Another question is what is mounted on the key and the straw? So that is melted, mounted, melted, that is mounted on celtec.

Let show you in the symbol backings.

This bottom image with the different colors is called celtec.

It's smooth, it comes in different thicknesses and colors.

I use it a whole lot.

We round the symbols, the symbol edges.

Because sometimes you know, these can be moving around a lot and you don't want anyone to get cut on the side.

So we often round the edges.

But cut up celtec, it's relatively inexpensive and comes in different colors and it's similar to the material used in the tactile connections kit.

Just something else we think about, and I have it just attached with hot glue.

Do you make symbols for all the toys the student uses in the classroom so we can give student more choices? I would if I could.

So do as many of them as you can and work towards that as a goal of symbolizing as much as you can.

Because what you don't wanna do is limit their choices by not having the language available for them to choose.

So I would recommend doing as much as you can.

And then if you could label, if you have for example a box of puzzles, you could label with puzzle and then have them feel the different choices.

It could be more category related.

So it could be as specific as the car puzzle versus the color puzzle versus the shape puzzle.

You're gonna wanna consider your individual kiddos in that case, but it could be the bin of puzzles is represented by you know, a puzzle tactile symbol.

And then as you guide them to over where the the choices are, you guide them, "Oh you can do puzzles, you can do board games." Something like that.

You could glue the Connect Four chip to the outside of the Connect Four box and have kind of just actually guide, here's some choices you can tap which one you want.

You can really indicate with a really simple motor response if that's what works best for your learner.

So I'm not seeing anymore, I'll give another minute if anyone has another question they wanna jump in with.

And also if I missed one, I'm really sorry, how do we submit for ASHA CEUs? Perfect, I submitted the survey so Jim kind of answered that.

There'll be a short assessment.

You guys will take a look.

There will be a survey that I highly recommend guys, please fill that out.

It's really helpful to figure out kind of what from the presentation is really standing out, things you like, things you learned.

And then also for connecting in the future about like additional presentations or information needed.

My email is listed on the slide and it's also in the handouts.

It's e, s as in Sam, m as in Mary, ac, k as in kangaroo, li as in igloo, n as in Nancy @gmail.com, esmacklin@gmail.com.

And I'd love to connect or if you have questions, follow up, please do.

I'd love to hear from you.

- [Host] All right, thank you Emily.

- [Emily] Thank you

- [Host] So much for that presentation.

I thoroughly enjoyed it and I'm seeing lots of positive comments in the chat as well.

There were a couple questions about ASHA CEUs so I'll just cover that really quick.

You will wanna complete that assessment.

You'll need to complete it at 80% or better to earn those ASHA CEUs.

But there are unlimited attempts, so if you take it and you get three right out of five, go ahead and try it again.

You should receive a confirmation email and attached to that email should be a certificate of attendance for today's session.

If you don't get that confirmation email, please email ableu@ablenet.com.

You should have that in the confirmation email or you can email me directly jaylarocco@ablenet.com as well.

I'd be happy to send that certificate to you.

I'd be also be happy if you just wanna verify that we received your submission.

Thank you everyone for attending and I hope you all have a great day.

Emily, thanks again.

- Thank you so much, have a good day everyone.

- [Host] Bye everyone.